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FOR THE YEAR 1908.

VOLUME XII.



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ADDENDUM.

The following was omitted from the Minutes on page 1, after paragraph 3, under the heading, “ Deputy Chairman” :

Mr. Craig said that in the absence of any rider or qualification as to when the altered rules were to come into force, he held, on parliamentary precedent, viz., that the House is bound by the rules it has itself made, the altered rules came into force and effect when agreed to and were passed by the Society in a properly constituted meeting--otherwise in accordance with the President's ruling, the Society would be in the position of having to give itself notice--not asking leave of itself--to alter the rules of its own making which seemed absurd.

The Journal

OF THE

Jamaica Agricultural Society.

VOL. XII.

JANUARY, 1908.

No. 1.

BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Thursday, 12th December, 1907, at 11.40 a.m. Present: His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. H. Clarence Bourne, W. Fawcett, R. P. Simmonds, Messrs. John Cameron, D. Campbell, Robert Craig, E. W. Muirhead, J. R. Williams, and the Secretary, John Barclay.

Apologies for absence were submitted from Hon. Dr. Pringle, who had to attend a meeting of the Parochial Board of St. Mary as chairman, Mr. Joseph Shore, who had to attend a meeting of the Northside Sugar Planters' Association as Secretary, and from the Hon. George McGrath, who telegraphed that he was detained owing to a mishap to the train.

Minutes.

The minutes of the last meeting, held in October, having been published in the November JOURNAL, were taken as read, and, with the addition of the matter *re* Shipping Oranges, appearing on pages 255 and 256 of November JOURNAL, which had been omitted from the September minutes, were confirmed.

The Secretary read letter from the Agent of the Direct Line as follows:—

6th November, 1907.

In reply to your favour of yesterday's date, with reference to orange shipments by the Direct Line steamers, with a view of giving every convenience, and to avoid any unnecessary restrictions, we have arranged not to insist upon shippers entering into contract as to quantities to be shipped during the season, and are continuing the old arrangement by which notice is given from steamer to steamer, with the proviso that whatever space is applied for and allotted must be filled by the shipper, failing which dead freight must be paid. I am glad to say this arrangement appears to be working satisfactorily. If we had not insisted upon dead freight being paid upon space allotted and not afterwards occupied, it would mean that many shippers might otherwise be deprived of space, which they would be willing to fill, besides which it is unfair to the ships to expect that space can be reserved for shippers, which they might not use, and to leave here with such space empty, when other shippers would have been glad to have made use of it.

The Secretary submitted letter from Mr. Muirhead calling attention to his agent's reports on the oranges carried by the S. S. "Port Royal," which left here on the 24th October with a large cargo of fruit, that oranges were landed in waxy condition, being

generally unsound. What he wanted to know was whether the accommodation, after the cold storage was filled, was considered good enough for shippers to send oranges, according to clause 9 of the contract. The reports of the Harbour Master's examination of the steamers appeared to be stereotyped. Unless the facilities on the Direct Line steamers were equal to the facilities on the Elder & Fyffe's boats, whose fruit usually arrived in good order, was it reasonable to expect the ordinary shipper to compete profitably?

After discussion, it was agreed that Mr. Fawcett should select some one competent to judge in the matter, and make an inspection of the accommodation for fruit on the ships of the Direct Line, particularly the "Port Royal."

The Secretary submitted reports of the Harbour Master, sent on by the Colonial Secretary's Office, on the accommodation of the Direct Line steamers "Port Royal," and "Port Kingston," which left on the 24th October and 7th November respectively, and the "Port Royal," which left on the 5th December. (C. S. O. letters 11982-14351, 12097-14432, 7th and 11th December, 1907).

Grants,
St. Elizabeth.

The Secretary read the following report:—

WORK IN ST. ELIZABETH.—With reference to the grants for carrying through experiments and special work in St. Elizabeth, I have received the full reports of Mr. Palache's work, estimate of costs, and plan of the provision experiment ground as asked for, and I was to submit this before the matter for an extra grant for travelling expenses for Mr. Palache could be considered. As the delay, however, would probably have curtailed the usefulness of the grant for the experiment and distribution of plants, His Excellency gave me his cheque for £5 to expedite the Instructor's special work.

I am glad to report that Mr. Palache has been especially active, and has been able to arouse the people's interest so much that they have formed new branches and sub-branches of existing branches in the very districts where the drought has been worst. Mr. Palache says "Nothing could have been more useful than my being placed in a position to help these unfortunate people with plants and seeds, and to be able to show the value of loose soil and heavy mulching by an actual object lesson. It has made them think that they are being thought of by the authorities, and where nothing but listlessness and indifference to agricultural instruction existed, a great number of the inhabitants of these drought-stricken districts are awakened to a sense of helping themselves."

Mr. Fawcett has visited the district concerned lately, and may be able to speak as to the value of this special work.

I have to report also that the *Gleaner* sent me an additional £10 from their fund to administer in the same way as before, and Mr. Palache and myself are arranging for supplies, chiefly of cassava sticks. This is almost the only thing that can be planted at this time of the year with a probability of success.

Mr. Palache says that the drought will continue on the extreme southern coasts of St. Elizabeth and Manchester; nothing can be planted, and what has been planted there has failed. Fortunately, over a large portion of St. Elizabeth that was affected by the drought up to August, plantings of corn, peas, beans and sweet potatoes have been most extensively conducted and the country is simply looking luxuriant; if no unforeseen drought sets in, these parts will be able to help their more unfortunate neighbours with supplies.—*Two. B. B. B.*

The Secretary submitted report of the Live
Transfer of Stock. Stock Committee as follows :—

REPORT OF LIVE STOCK COMMITTEE.

The Live Stock Committee met at 4.15 p.m. on Wednesday, the 11th December, at the office of the Society. Present: Hon. W. Fawcett, presiding, Messrs. Bourne, Craig, Muirhead, and the Secretary, and having considered correspondence submitted and reports from the Secretary, report as follows :—

RE STALLION.—That as Mr. Arnett has to attend the Teachers' Course in Kingston, in January, and assist judging in the Prize Holdings Competition in St. Mary in February, the pony stallion, "Sir Gerald," be stationed with Mr. J. C. McIntyre, the Secretary of the St. Ann Branch, at Clarendon, for January and February. The Secretary reports Mr. McIntyre to be a capable horsemaster, and he has the promise of mares in these months. Thereafter, Mr. Arnett will take charge of the stallion, as arranged before, and personally take delivery from the Secretary at Ewarton on the 17th December.

BULLS.—The Shorthorn bull, "Henbury Favourite," has been transferred from Mr. Young, at Tobolski, to Mr. Ewen, at Weston Favell. Correspondence was read on this matter from Mr. Young as to delivery, and from Mr. Ewen as to the condition of the bull when received, and the Instructor, Mr. Arnett, has been instructed to see the bull and report.

The Shorthorn bull, "Henbury Beau," having had cows to be served has not yet been transferred from Mr. Lewis, at Mandeville, to Mr. Rerrie, at Montego Bay, but arrangements are being made to transfer this animal on the 31st December

The King's Shorthorn bull, "Desmond," has been transferred from Mr. Mills at Bog Walk to Mr. Calder at Worthy Park. The Secretary, personally, inspected this bull on delivery.

The King's Hereford bull, "Sylvester."—This bull has not yet been transferred from Knockalva to Annandale, St. Ann. Mr. Malcolm raised some questions about being deprived of the bull, after keeping him through the off season, but the Committee think that having had his services for two and a half active seasons as against one and a half slack seasons, the bull should now be transferred to St. Ann as already arranged.—W. FAWCETT, Deputy Chairman.

These arrangements were agreed to.

Roads. Mr. Craig now moved the resolution he had given notice of at the previous meeting :—

"That, in the opinion of the Agricultural Society, the time has arrived when the making and maintenance of the roads of the Island should be operated on more modern methods, including the use of steam road-rollers, with a view to greater efficiency and ultimate economy."

In speaking to the resolution Mr. Craig described the inefficient system in vogue, and contended that it was not only ineffective in making good roads but uneconomical also.

Mr. Simmonds seconded, and said they had a steam-roller in St. Mary, and since its use the roads had greatly improved. His Excellency also supported the motion, and instanced the Fellowship road in Portland, where, in the making, the steam-roller from St. Mary had been used, and having gone over that road lately, he was agreeably surprised at the good surface that had been kept, despite the difficulties.

The motion was unanimously agreed to, and the Secretary instructed to forward the resolution to the Governor.

The following letters from the Colonial Secretary's Office were submitted :—

(a) 10379 S.S. 22.11.07. Permanent International Sugar Convention relative to the proceedings thereof, which had already been published in the *Gazette*.

(b) 10134 S.S. Cir. 17.10.07 *re* importation of horses, asses, and mules into Great Britain enclosing order by the Board of Agriculture and Fisheries that no horse, ass or mule shall be landed in Great Britain, unless accompanied by a certificate of a Veterinary Surgeon that it was free from any symptoms of glanders or farcy when it was embarked.

(c) 11571-13802, 28.11.07, intimating that the West India Agricultural Conference would be held at Barbados from 14th to 21st January next, and asking whether the Society desired to send a delegate or delegates.

It was resolved to recommend to His Excellency that Mr. Fawcett, as Director of Public Gardens and Deputy Chairman of the Society, attend the Conference as the delegate of the Society, and that all details of arrangements should be left in the hands of His Excellency.

(d) 11070-13172, 13.11.07, informing the Secretary that the Governor approved of the waste piece of land around the old fort at Rio Bueno being used as an experimental plot, and that the Surveyor-General had been informed accordingly.

The Secretary said that when in Trelawny with Mr. Arnett, the latter called attention to this piece of land, and asked whether he might get the use of it, as, at present, it was more of an eyesore than anything else, being next to the church and opposite the school. Mr. Arnett proposed to give a part of it to the school for a school garden. The land was poor but typical of hundreds of acres lying useless along the seaboard, and he asked a small grant to help him rebuild the walls and lay out the ground.

The Board favoured the application, but as Mr. Arnett would not be free to take up the land until April, the matter was held over until it was seen what funds they would have available.

(e) School Gardens. Enclosing copy of an appreciation by the Rev. Swift of Mr. P. W. Murray's work, when, as Instructor of School Gardens, he visited Hector's River district.

Importation of Indian Cattle.

No. 12098-13597.

12th December, 1907.

I am directed by the Governor to state, for the information of the Jamaica Agricultural Society, that in 1905, the Secretary of State for the Colonies, at the request of Sir J. A. Swettenham, instructed the Emigration Agent for Jamaica at Calcutta that, when it was desired to ship cattle for Government purposes on emigrant ships, he was at liberty to make such arrangements for their shipment as the regulations of the Indian Government allowed. This decision was notified to Mr. Fawcett, Director of Public Gardens, and Deputy

Chairman of the Jamaica Agricultural Society, and a notice on this subject appeared at page 305 of your Society's JOURNAL for 1905. Mr. Fawcett was also informed by the late Governor that, it being the standing purpose of this Government that Indian cattle of good breed should be imported to improve the breeds in Jamaica, His Excellency authorised the importation of certain cattle through Mr. Fawcett's agency (such cattle being, in fact, destined for private ownership).

2. As Sir Sydney Olivier entirely concurs in his predecessor's opinion, that the continued importation, from time to time, of Indian bulls is a policy of public advantage to this Island, and may be regarded as a concern of the Government (which, in fact, through your Society, provides for the grant of premiums on imported stud animals of high quality) and as the Governor further recognises that it is not the policy of this Government directly to import and maintain stud animals on its own property, His Excellency proposes to continue to further private requests for facilities for such importations, and he will, therefore, cause a notice to be inserted in the next *Gazette* to the effect, that persons desiring this assistance must notify the Colonial Secretary as Chairman of the Board of Agriculture, when the Emigration Agent at Calcutta will be requested to arrange, if possible, for the shipment of the animals desired, as for Government purposes.

Draft Half-yearly Re- The Secretary read report of the Finance Committee and Estimates. mittee as follows :—

The Finance Committee met on Wednesday, the 11th December, at 3.30 p.m., at the office of the Society. Present: Hon. W. Fawcett in the chair, Messrs. Bourne, Craig, Muirhead, and the Secretary.

The Secretary submitted Draft Half-yearly Report and Statement of Accounts to date. The Committee considered these, and the Estimates for next year, and beg to report that they recommend the increases as per statement in the hands of the Board as follows :—Office staff, £184 to £200 to enable small increases to be given in order to retain clerks, if possible, for a longer period. (2) Office furniture: a special amount of £50 for the next year only, to provide proper equipment for the office. (3) Printing JOURNAL, an addition of £15 to provide for an increased number of JOURNALS necessary to be printed; but this will be more than met by increased receipts for advertisements. (4) Stationery and sundry printing: an increase of £5, as supplies are now furnished to the Instructors. (5) And, also, that the amount fixed for prize holdings, reduced to £100 two years ago, be restored to the original amount of £125 to enable four Parishes to be taken instead of three, and let the competition go round every three years as at first; and (6) that the items Experiments, Exhibitions and Shows, struck off three years ago, be replaced on the Estimates, and £5, £50, and £100 be respectively added for these purposes, experience having proved that they were all most useful, and, indeed, indispensable for the complete work of the Society. In order to provide for these additions, we recommend that application be made to the Government for an addition of £250 to our grant, that is, £1,500 instead of £1,250.—W. FAWCETT, Deputy Chairman.

After discussion, His Excellency said that he agreed with the advisability of making the provisions suggested, and he would ask the Legislative Council to vote the additional £250 required.

Mr. Craig said he noticed what he considered an omission in the recommendations. He thought the Secretary should have some recognition of his continuous hard work in the service of the Society, and he would move that his salary be increased by £50. Mr. J. R. Williams seconded. His Excellency supported the motion, and sug-

gested that the sum set down for Exhibitions be transferred to meet the increase.

This was agreed to.

The Reports and Estimates were then approved. (See Report of the half-yearly meeting.)

Prize Holdings. The Secretary submitted report and awards, and recommendations of the Judges, Mr. Cradwick and Mr. Mennell in the Prize Holdings Competition. The awards of the ordinary prizes offered were confirmed, but after discussion it was considered that too many small prizes in proportion to the number of competitors were recommended. It was agreed only to refund the entry money to those recommended for small special prizes.

As regards the parishes for next year, the Secretary said, as it was probable they would now be able to resume dealing with four parishes instead of three, he agreed with the recommendations of Mr. Cradwick that the parishes should be St. Elizabeth, St. James, Clarendon, and St. Andrew, thus giving a parish in each Instructor's district, except his own. Mr. Cradwick expected to ask for leave of absence next summer, but would be back in time for the judging. This was agreed to.

Canadian Commercial Agent. The Secretary submitted letter from Mr. E. A. H. Haggart intimating that he had been appointed Commercial Agent for Canada, and that he would be glad to be of use to the Society in that capacity.

Letter from Bath Branch. The Secretary submitted letter from Bath Branch, which, as it dealt with a request for additional services from the Instructor, Mr. Briscoe, who was under the control of the Board of Agriculture, he had referred the letter there, with the result, that Mr. Briscoe had been instructed to give the special attention asked for, and to cocoa interests especially, in St. Thomas-in-y-East, as far as he could.

Secretary's Reports. The Secretary submitted reports as follows ;—
(a) Visit to St. Thomas-in-y-East :

I beg to report that I visited Morant Bay, Blue Mountain Valley, and Trinityville districts in St. Thomas-in-y-East, with Mr. Briscoe, during the second week in November. I visited Mr. Hopkins at Blue Mountain Valley Estate, Captain Blackwell at Serge Island, Mr. Hope Levy at Lyssons, Mr. Marchallick at Red Hills, Mr. J. P. Provan at New Monklands, and Captain Eves at Monklands, and finished up with a meeting at Trinityville coming on direct to Kingston the same evening. The Trinityville Branch is holding a show, confined to the members, on the 26th December, which has been arousing great interest in the district. His Excellency has given £3 for special prizes—for the best packed box of oranges, cured cocoa, and cured coffee.

Coconuts were fetching the rare price of £5 10s. per 1,000, and are improving in grade with every shower, while the bearing was very good, indeed, in spite of the drought. Bananas had recovered in marvellous fashion, and a good many estates looked in quite good shape for the season. Coconuts are being planted by everybody in a favourable position, and many of the fields of bananas had come through them in preference to coconuts near the sea. Further inland, everybody who had bananas

was planting cocoa, specially through low fields of coffee, and the two—coffee and cocoa—appear to agree together very well. Mr. Briscoe and myself particularly noticed this in small settlers' places, and there, both coffee and cocoa were bearing first-rate crops. Rubber planted was not being planted generally, indeed, hardly at all, but attention had been called to it, and some of the planters proposed trying *Castilloa* and *Hevea* in the lowlands, and *Virgen* rubber through the high fields of coffee.

There is great scope for Mr. Briscoe to work in St. Thomas, especially among cocoa, in the special direction of careful selection of seed for planting—good varieties from strong bearing trees—and in pruning the useless growths on small settlers' trees, which diminished the bearing to a large extent.

The Bath Society has asked for Mr. Briscoe's services for a longer period than the two or three days he gives them. As Mr. Briscoe's services are controlled by the Board of Agriculture, I referred the matter to them, and he has been instructed to give as much attention as possible to St. Thomas-in-y-East, and to cocoa interests there, even if he devotes less attention than usual to St. Andrew. With him it is not a matter of the time he can spare so much as money for travelling. He can only do what his allowance permits.—JNO. BARCLAY, Secretary.

(b) Travelling arrangements :

I have been asked by Mr. Arnett to visit St. Ann again, taking the upland districts, and especially to attend the annual meeting of the Pedro Branch, where lately he opened up an entirely new district to Agricultural instruction. The travelling allowance, however, is almost exhausted, and I cannot arrange for all this, but when I deliver "Sir Gerald" to Mr. Arnett on the 17th at Ewarton, and the Hereford bull to Mr. K. Roxburgh, I shall take the opportunity to attend the Pedro Branch meeting on the 18th, and return by the early train on the 19th. I am doubtful if the remainder of my travelling allowance will carry me through the engagements, which will be almost necessary for me to carry through up to the end of March, and I have to drop altogether the idea of visiting Mr. Hirst's district in St. Catherine and Clarendon.—JNO. BARCLAY, Secretary.

Visit to St. Ann was authorised, and the Secretary asked to report whether he could transfer any money, not now in other accounts, to Travelling.

(c) Application for leave :

I beg to ask the Board for a week or ten days' leave, between Christmas and the New Year, or from the Saturday before Christmas to 31st December, when I am arranging to travel to Appleton to attend the show there. It was arranged that I should have a week's holiday after the Conference in January last, as I did a good deal of special work then, acting as Secretary, but the earthquake intervened, and I have never been able to see an opportunity for a holiday since. I can make it convenient, I think now, for the time stated, as there is nothing special on just now.—JNO. BARCLAY, Secretary.

Leave was granted.

Instructors' Reports. Reports from the Instructors, for October and November, were submitted, and their itineraries.

Affiliation. Application for affiliation from the following new local Agricultural Societies were submitted:—Lucky Hill (St. Mary), Albany (St. Mary), and George's (St. Catherine); and the same governing affiliation having been complied with, affiliation was granted.

New Members. The following new members were elected:—
F. G. M. Robertson, Ramble; John H. Kydd,
Ceballos, Cuba; Dr. F. B. Grosset, Port Antonio; S. P. Parkin-
son, Haiti; A. P. Sutherland, Mandeville; Hon. J. V. Calder,
Ewarton.

Adjournment. The meeting adjourned to Thursday, the 18th
January, at 11.40 a.m.

THE SPIRIT OF SHOWING.

(From Live Stock Journal.)

EVERY man should be an exhibitor. It is the very essence of live stock breeding. There is incentive and ambition, and honour and satisfaction in it. Aye, and let not the severely practical look on it scornfully, for there is money in it too. The latter does not come so much from the prizes as from the appreciation in which a regular prize-winner's stock is held. The mere hope of gain, however, is not the spirit in which showing is followed. It is, indeed but a very small part of the business. The great incentive is the trial of strength, the putting of one man's judgment in selection, or skill in breeding, against all others. How often does a man gain the knowledge that leads to his ultimate success in the experience bought in the rough and tumble of the showyard? But who, excepting the man who has experienced it, can understand the feeling of pride that pervades the man who has at last vanquished his strongest competitors and reached the summit of his ambition? It is far beyond the feeling that any mere money prize could give.

Exhibitors may be divided into two classes—those who can bear defeat and those who cannot. The latter are men to be pitied. In one of its aspects there is not a more merciless phase of farming than is found in the showyard. Respectable mediocrity is nowhere, and the inferior exhibit gets neither sympathy nor indulgence. The judges have no time to spend over it; they are too busy correctly placing their selections. The spectators care nothing for it; they desire to see the vanquishers, not the vanquished. A good animal at home, but outclassed at the show, it simply comes and goes unnoticed. But what of the owner? If of the right stamp he will brace himself for a better effort, but if he cannot stand defeat he will surfeit his friends with vague complaints. "I will never exhibit at such a show again. The judges never looked at my animal, and I wouldn't have taken two like the one they gave first prize to for it." Perhaps he was right, but more probably he was wrong. If right, he could go to another show to get the verdict upset, but he will not see this. The show committee come in for a share of the blame, even although they have done their best to get good judges, and, having done so, have left the matter in their hands.

How differently acts the other class of exhibitor. He likes not defeat, but he grins and bears it, and comes up happy. He hides

his disappointment with a cheerful exterior, and carefully notes in what particular he has been beaten. His defeat has nothing more than a momentarily depressing effect; it, indeed, braces him and strengthens him for a further effort. If he thinks he has got less than his deserts he does not openly complain, but seeks the only exhibitor's remedy, that of getting the decision upset at a subsequent show. Possibly the defeat may be partially his own fault. He may not have exhibited to the best advantage, and thus failed to catch the judge's eye. There is a lot in this. The art of attracting attention is one to be studied by every exhibitor. Many a man wins simply by taking pains to show his animals to the best advantage. An animal's toilet makes a wonderful difference to it. Who has not heard the story of the man selling a horse to sharpers, who have so made it up that they have resold it to him at an enhanced price and as a better animal than his own in the same day? The feat has actually been done, and to see some animals before and after their toilet is completed is to believe it. There are two ways, too, of entering a ring—one as though you intended to win, and the other, as though you were there by sufferance. There is a tendency to take a man at his own estimate, and he who shows that he means to win if he can has a better chance of catching the judge's eye than he who keeps in the background.

The loud boaster does not reflect the true spirit of showing. The man who wins to crow over his competitor has but a low aim. The really successful exhibitor is seldom indeed a man of this class. Watch him as the animals are being judged. He stands by the ring-side apparently an unconcerned spectator. Much may depend on the judge's decision, but, he gives no sign. He talks quietly and collectively, knowing and feeling that other men close by are in the same position as himself and just as keenly interested. If he loses, he takes his defeat resignedly; if he wins, his elation is tempered by the fact that a mere trifle may have turned the scale, and that other judges would have acted differently. For it is but seldom that an exhibit is of such outstanding merit as to win in any company and under any judges.

And so we see and recognise the right spirit of showing. Not in the discontented, not in the timid and fainthearted, not in the careless and unobservant, not in the boaster, but in the man who with grim determination sets himself to equal or surpass his strongest opponents. And not for mere gain alone, but for the knowledge that in skill and determination, he can hold his own; more than that even for it gives him the proud feeling that he is playing a not unimportant part in maintaining and improving the great live stock industry of this country.

COTTON WORMS.

ANY caterpillar which injures cotton by burrowing into the bolls may be called a boll-worm. In the United States of America, however, the name is restricted to one species, *Heliothis obsoleta*, which

is a very destructive pest of cotton. This insect occurs in the West Indies and was reported as attacking the cotton crop in Antigua and Barbuda during 1906. During the past few weeks this pest has again appeared in Antigua and has been found in small numbers in Barbados.

Cotton in Barbados has been attacked in a similar way in previous years by the "corn ear worm," and during the present season this pest has appeared in sufficient number in the cotton fields of certain estates to cause some alarm.

These two insects are similar in habit and in their manner of attacking both corn and cotton, but differ considerably in appearance.

An account, with illustrations, of the corn ear worm appeared in the *Agricultural News* (Vol. IV. p. 90). The illustrations are reproduced herewith. (We regret not being in a position to reproduce the illustrations.)

The moth which produces the corn ear worm is a night-flying insect. It is variable in colouration; in one form the forewings are dull grayish-brown above; in another they are darker, and resemble more a coloured pattern.

The caterpillar, when fullgrown, is about $1\frac{1}{2}$ inches in length. The ground colour varies from dull-yellowish brown to black, more or less streaked with dull yellow. Three thin stripes of pale yellow extend along the dorsal surface, the middle one being nearly straight and the two side ones slightly sinuate.

The pupa is generally to be found in the ground though sometimes in the ear of the corn. It is about $\frac{3}{8}$ inch in length and mahogany-brown in colour.

The moth of the boll-worm differs from that of the corn ear worm in being much lighter in colour, and somewhat larger in size, measuring about $1\frac{1}{2}$ inches to $1\frac{3}{4}$ inches across its outspread wings.

As stated above, the corn ear worm and the boll-worm are similar in their habits. Corn is the food preferred by these insects, and attacks on cotton generally follow severe attacks on corn in the same neighbourhood.

The first indication of the presence of the pests is the ragging of the young, tender leaves in the centre of the corn plant; later, the attack extends to the ears.

On the cotton they are seldom, if ever, noticed until they attack the bolls, in which they tunnel, destroying all the interior. Bolls of all stages of growth are attacked, from the small flower-bud to the boll which is nearly full-grown.

The fact that corn is preferred by both these insects as a food plant, naturally suggests that this preference on their part may be used for their destruction. The eggs of the corn ear worm are laid in clusters of from fifty or sixty to 300 or more, on exposed surfaces of the leaves of corn or cotton.

The eggs of the boll-worm are laid singly on the leaves, tassels, and silks of young corn, and on the cotton plant. Probably eggs

are deposited on many other plants, as the boll worm is one of the most general feeders known among insects.

In order to control the boll-worm by the use of Indian corn as a trap crop, it will be necessary to have the corn planted near the cotton so that the corn will have put out tassels and silks by the time the first bolls are forming on the cotton.

If this is done, it is probable that nearly all the eggs of both the corn ear worm and the boll-worm will be laid on the corn plants. The caterpillars may be destroyed in two ways—the corn may be cut and fed to the estate stock, or the following method which has been found useful in Florida, may be tried :—

“When the caterpillars are feeding in the crown of the plant, they may be poisoned by a mixture consisting of half a teaspoonful of Paris-green thoroughly stirred with one quart of cornmeal. This may be applied by means of a sprinkler, made by punching a large number of fine holes in the bottom of a tobacco tin, and shaking the poisoned meal from it into the crown of the plant. This would probably prevent serious injury to the leaves, and by reducing the number of the moths in the succeeding brood protect the ears, to a large extent.

If corn is planted as a trap crop, it must be cut before the insects are full-grown or they must be poisoned. Merely to plant corn near cotton, and then to leave it, would be to furnish an extra breeding place for these pests ; and would tend greatly to increase their number.

HORSE BREEDING.

OUR markets here and the demand from the other West Indian Islands are chiefly for carriage horses, and this is the purpose that should be arrived at by the many, not the breeding of a possible fast galloper, with ninety chances to ten of getting nothing but a poor saddle horse, unfit for draught.

The following article, although written for farmers in New York State—smitten with the track record mania—contains sound advice : “The thoroughbred running horse of to-day is a far different horse from that of half a century or more ago, being lighter in the limb and less strong in the loin than when he was bred to carry more weight, run longer distances, and do a lot more cross-country work than now, when racing is done on tracks prepared so as to cause less strain, and which requires less staying power in the horse. All these years he has been bred to run, and run fast, for four, five or six furlongs, rarely over a longer distance. In no sense can the thoroughbred running horse be considered of carriage or coach type of horse. The demand is for the horse with the power to haul it, and the disposition to do it willingly and safely. In short, the carriage horse needs to be one that is kind and tractable, and have the build, power and stamina to haul carriages with one, two, three, or four ful

grown persons in it, not to carry a jockey, a boy in size, on his back. That is the kind of horses the world is demanding to-day. Not one man in ten thousand wants a running horse.

"Of those who use horses for draft or ordinary labor, there is no one class on earth so well situated to raise them as is the farmer. The colt must have some fields to run in if he is ever to grow up into a useful beast. Now to the question. Can any one reasonably expect to raise what the markets of the world demand by the use of an ordinary thoroughbred sire; can he expect to get a carriage or coach horse from a sire of line breeding for a half dozen or more generations, whose ancestors have been used only under the saddle, and neither the sire nor any of his ancestry of a working type? Can any one think for a moment that this animal, with slim neck, cat ham thin shoulders, greyhound shaped limbs, is not going to put his stamp on his progeny?

"Let us get right down to business. Choose any section where you please in the State of New York. Go upon a hundred farms and take the mares as we find them, and allow the farmer to breed his mare to a Jockey Club horse, and what percentage of them can any reasonable man think will be carriage horses? I will throw down the gauntlet, and say not to exceed 10 per cent. of the colts would ever do as even second or third rate carriage horses; not one would ever be classed in the first class. What about the more than 90 per cent. that are left? They are not carriage horses at all; their shoulders are not shaped to wear a hame collar and pull a load, even if they had weight enough. They would be well nigh useless for farm work, even if they had the disposition to work. One can just as reasonably breed his mare to a jackass and expect to get a fine saddler with short, gummy ears as to expect to get farm horses by this line of breeding. What, then, is the farmer to do with his colts? Some of them will not work in harness—how many I don't know. Their ancestors never did any work and a goodly number of these farmers' colts won't, I feel very safe in saying. Undoubtedly quite a number will do saddle work.

"The using of the Jockey Club sires on the farmers' mares of the country, as we find them, will not improve the type of horse the majority of horse users desire one iota. In my belief it will deteriorate it. Here and there may be found a well bred mare of a carriage type, but lacking in energy, which being bred to a Club horse, will give birth to a colt that will grow up into a saleable horse, and his owner may find a buyer at a paying price. But this will be the exception and not the rule. My friend speaks of what he saw at the fair. I will state what I have seen at several fairs. He without question saw some of the little, inbred, degenerate standard breeds, with far more pedigree than horse. I have seen some of the same. Selecting sires from racetrack records had gone on until the horse quality was bred out. Sires of that class are certainly a curse to the country. But this class of standard breeds by no means constitutes the whole of them. There are plenty that farmers can find that are

horses of size, style and action, and of good disposition, whose services can be had at moderate prices. Where in the name of sense is there any need of a farmer breeding his mare to something where the chances are ten to one against his raising a colt that will be marketable except to a very few, when the chances are nine times out of ten, he can raise a colt that will please not only nine but be a marketable animal?

“So I shall feel constrained to continue to advise the farmers to breed for horses that the markets are asking for, and not quit certainties for hopes, that is, good harness horses not race horsos.”—*New York Tribune Farmer.*

POLO PONIES.

THERE is no doubt about it we do take fits and fads and can work up great enthusiasm on some particular subject for a month or so, and then tire of it. A few years ago it was the production of polo ponies here that aroused our enthusiasm. There was an enquiry into the horse breeding of the Island, there was a horse show, and then our interest evaporated to a large extent. However, a good many men who have studied the business think that we will not do much at it; that we can hardly produce enough really good ponies for our own wants; yet still a great many, who have equally well thought over the matter, we daresay, think we ought to be able to supply ponies at least to the West Indian Islands, and parts of Central America, if not to Great Britain. We have some advantages but are not these far out-weighed by the advantages possessed by large horse-breeding countries in the world? One of the next places to send out polo ponies by the hundreds will be Argentina, and for the interest of readers we give some notes on the subject.

This is what we would require to compete against. The possession of fields of Alfalfa (lucerne) alone is so great an advantage over our forage, that almost nothing can make up for it:—

There can be little doubt that when our “estancieros” take seriously to breeding polo ponies for polo, they will be able to put the raw material on the market very much more cheaply than can breeders at home, but just as owners of high-class flocks and herds supply us with rams and bulls to improve our breeds of sheep and cattle, leaving us to provide cheap beef and mutton, so will English breeders of pedigree polo ponies find us good customers for the stallions and mares required to bring the existing stock in the country up to the required standard for the home demand.

Argentine polo ponies have had their ups and downs in polo players’ estimations, but I am sure that all will agree that the well-bred ones are as good as any that can be obtained outside the British Isles, whilst the commoner sorts, on account of their being so cheap and easy to play, make excellent beginners’ ponies for regiments and country clubs.

Hundreds of thoroughbreds have been imported into Argentina during the last thirty years from England and France, and, though at first the stallions included many very bad horses, of late, breeders have learnt by experience that only the best are worth having, and there are to-day some of the finest thoroughbreds in the world in the various studs scattered over the Republic. These are bound to affect the general horse stock sooner or later, and, after all, good thoroughbred blood makes the best foundation for a breed of ponies required for modern polo.

Half of the estancia consists of the coarse grass natural to this part of the country, and the other half is laid down in lucerne and divided into a number of paddocks, averaging 400 acres apiece. All the paddocks are watered from semi-artesian wells pumped by wind-mills, and I may mention that most of us out here are much more particular as to the watering arrangements for our stock than are the majority of farmers at home. Although the cattle and sheep are looked to principally for bringing in the dollars, horses have risen so greatly in value since the South African war that a few good mares give a capital return.

My polo ponies, nearly 40 in number, run with the imported Shy Boy by Rosewater out of Shy Lass by Albert Victor, a pony bred by Sir Humphrey de Trafford, and a winner of fourteen prizes in England, including two for bending. This is Shy Boy's first season here, as I only brought him out last November. Hitherto I had used a small thoroughbred stallion, bred in the country, on the polo pony brood mares. These latter have all done something or other to warrant their inclusion in the stud. Some have been good performers on the polo ground, others have won races, whilst some have only been sufficiently broken to make sure their pace, temper, and courage were good. All the mares for six months of the year run together, from the beginning of April to the end of September, in the rough grass paddocks before referred to, with most of the breeding cows. A man is in charge of these paddocks, and he probably sees every animal in them once a day, reporting anything wrong to headquarters. Beyond this daily revision the mares require no other attention. The stallions during these same months run together, if they agree, in a small lucerne paddock near the estancia, and if the winter is good they require no supplementary ration, but if grass is scarce they get one, or perhaps two, feeds of maize taken out to them each day. This winter is a good one, though we are having hard frost every night. The stallions are getting no extra feed, and are rolling fat.

At the beginning of October the mares are brought into the lucerne paddocks, divided up into their different manadas, and put into separate paddocks with their respective stallions. Were the brood mares and cows kept for breeding grazed all the year round on lucerne, they would become so fat they would not breed. Most of the foals are weaned in April, and those too young to take away from their mothers then are left with them, and weaned from time

to time during the winter. Once weaned, the young ones are generally left in the lucerne paddocks till they are sold as three-year-olds, the age at which they undoubtedly give the best return. It is a good plan to break the yearlings to handle, as it lessens the risk of injury when they are caught up later to be broken or sold. Calculating on a 10 per cent. return at present values, to keep the mares as I have described costs about 20s a year, the colts and fillies on lucerne will cost about 30s and the stallions about £10. To break the young ones to handle costs very little if the work is done as opportunity occurs by one of the regular staff, and if a professional breaker is employed specially to do it the expense is never more than 10s. a head. Money here is dear, and interest, which runs from 7 to 10 per cent., is a big item to reckon with, whilst depreciation would have to put down between 15 and 20 per cent. Brood mares like the ponies I have now would be valued at about £10 each, and the stallion at £100.

You will see, therefore that it is possible for us to breed a first-class pony at a cost of about £10 when three years old, reckoning on the mares giving 75 per cent. of foals. Only two of my pony mares missed last season, and these are a very aged pair. Freight to England, including fodder, insurance, attendance, and fittings, costs £10. The disposal of the misfits is not a serious question for us. The most useful saddle horse for general purposes is one measuring from 14 hands to 15 hands. Too big a horse is not handy enough for cattle work ; he goes all to pieces if keep is not good, is a trouble to get on and off when riding about the estancia, and is tiring to ride for a long day's work.

Breaking ponies for polo is not such a difficult nor such a long business with us as it is in the old country. A pony will learn to stop, turn, and gallop after a cow or other animal in half the time he will when he has nothing to follow, so that if ridden on an estancia in the ordinary work of the day he soon becomes handy, and learns, besides, to ride off well.

As there are no stones we never have to shoe our horses, and so save one more expense.

No pony likely to be sold for export to this country should be docked. A long tail is a wonderful protection against the cold winds in winter, whilst in summer it helps to keep away the flies and mosquitoes, which in some districts give horses at grass a very troublesome time.

SELECTION OF SEED.

THE selection of the best seed, and how to recognise and obtain the best seed for planting has been written of a good deal in this JOURNAL. The Instructors, since they have been at work, have continually been insisting that this is an essential part of the improved cultivation. We notice, with pleasure, the care now taken in selecting good coconuts for planting, but, to a large extent, this selection

Basic slag should be a particularly useful form of a simple fertiliser to use in Jamaica. It is especially beneficial to some of our old cocoa walks, which have been heavily shaded for years, until the ground has become mossy or covered by litter. Cocoa draws heavily upon the supplies of phosphoric acid in the soil, and this form of artificial fertiliser will quickly sweeten the land, and transform the litter into quickly soluble plant food. On old pasture land, where stock have been fed for generations, basic slag works wonders. At the price of cattle, people will say that it would never pay to apply basic slag to pasture land, but it would doubtless pay in many cases; for, after the application, the grass would become quickly richer in phosphorus, and, in all probability, the stock grazed on such fertilised land, would be six months ahead of stock on land, where basic slag had not been applied. A comparison can be made by applying basic slag in the grass pieces kept in reserve in case of drought.

Guinea grass is like other crops; it is more nutritious from good lands, and new lands, than from thin soils, or lands where grass has been cut for a long succession of years. Basic slag costs £4 5s. a ton in Kingston.

PIGS.

WE have before written on the disgraceful manner in which pigs are often kept in small pens, wading in filth. There is absolutely no need for anybody keeping pigs in such a manner there is plenty of room available; it is through sheer ignorance, and now-a-days there is no excuse for such ignorance. There are Agricultural Societies throughout the Island, and there are Agricultural Instructors visiting these, and it is their business to preach that "cleanliness is next to godliness." "The righteous man has mercy on his beast," and this does not mean a horse or a cow alone, it includes pigs and dogs, two of the animals that are hardest dealt with in this country, The pig is an omniverous animal, and, in this respect, resembles man; it is subject to like ailments, with this difference, that they run a much more rapid course in the pig, and for that reason treatment should be very prompt whenever a pig is observed to be ailing. Unfortunately, people do not observe their pigs enough; until the pig absolutely lies down in a corner, and refuses food, it is not supposed to be sick. One of the first indications of serious sickness is the refusal of food, and scouring, or diarrhoea. Whatever may be the sickness, the first thing to do is to give the pig clean surroundings; if it has been in a dirty, filthy place, wash it with Jeyes' Fluid and water, give it clean bedding in a cool place, plenty of clean water, and a tablespoonful of castor oil, which may be mixed in a little sweetened milk, say half pint to a pint; then, next day, administer another drench, composed of

1 Dessertspoonful of salt

1 Tablespoonful of hardwood ashes

1 Tablespoonful of sulphur

1 " of charcoal

all ground fine, and fed along with thin cornmeal porridge or pap. If the pig will not eat this, it must be put down its throat in the way laid down in the April JOURNAL, 1907. This treatment should be repeated every week till the pig recovers its health. Some pigs get sick by feeding them too much on salt stuff. Pigs and chickens are the two animals, which do not require much salt; a trifle is sufficient for them.

COMMENTS.

SEEDS.—For planting in March and April, we hope to have selected Sea Island Cotton Seed, Seed Corn (Maize) and Rice in stock. Guinea Corn will again be scarce. Guinea Grass Seed can be got now.

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WEST INDIA AGRICULTURAL BULLETIN.—Vol. VIII, Nos. 1, 2, and 3, contain the papers which were prepared for the Agricultural Conference here in 1907. They deal with almost all the subjects connected with agriculture that we are interested in, and are most valuable. Copies of these should be obtained and kept for reference. We hope to draw upon their stores of knowledge.

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SHOWS.—The intimation that grants to shows would be restored has had a stimulating effect. The following local shows are proposed to be held:—Christiana, on Thursday, 9th April; Rio Minho Branch, at Mears Pen, near Frankfield, on Easter Monday; Port Royal Mountains, on a date in the first week of July, and the Port Maria Branch is to consider the holding of the St. Mary show on a date in June. We hear no word of the Kendal show.

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TOBACCO.—In 1891-2 there were imported into Jamaica 7,202 lbs. of cigars, valued at £2,880, and there were exported 100 lbs. of cigars, valued at £25.

In 1905-06 there were imported only 153 lbs. of cigars, valued at £154, and there were exported 40,325 lbs. of cigars and leaf tobacco, valued at £20,312. In addition to this, our home consumption of tobacco, in the form of cigars and cigarettes, has probably quadrupled in the last twenty years.

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BRANCH SOCIETIES.—If reference is made to Branch Notes in this JOURNAL, some very interesting matters will be noted. It is especially gratifying to read in the report from Lamb's River that the class for teaching girls how to make jippi-jappa hats has had good results, and that some girls have been able to make hats of a value of 8s. to 10s. The Secretary of Lititz and Nain Branch reports corn crops poor in Southern St. Elizabeth, where there is any at all, but beans have done fairly well. Northern St. Elizabeth has enjoyed good rainfall, and has good crops. The Secretary of Maid-

stone Branch, South Manchester, reports a large corn crop. Port Royal Mountains members are waking up, and intend to hold a show near Mavis Bank in July.

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ADVERTISEMENTS.—In September Number, when writing about advertisements—and readers, who have forgotten what we said, should please look up our remarks, or, all the same, again go through the interesting advertisements we publish, carefully see what they want and write for the articles—we made the serious mistake of writing carelessly of our old friend and native preparation “Jamaica Healing Oil.” Of course we meant Benjamin’s Jamaican Healing Oil, which is the precise, proper, and particular designation you must ask for, as, alas! other stuffs in similar bottles are often put forward when “Jamaican Healing Oil” only is asked for.

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PLANT NURSERY.—One of our Instructors, Mr. J. T. Palache, Mandeville, has recently been working up a garden nursery to supply such plants as are usually difficult to get, most often have to be imported, and are troublesome to the ordinary grower, who cannot devote personal attention to nursery beds, to grow from seed, or layers, or cuttings. He has a large variety of different kinds of roses, begonias, geraniums, fuschias, etc., in the line of floral display, and he can also supply vegetable plants, which can transplant easily, such as cabbages and tomatoes. Such a business, situated in a temperate climate, and in a central situation, like Mandeville, we think, will supply a long felt want. As to Mr. Palache’s ability to produce such plants—well, that needs no saying. In days gone by he swept off the prizes at many shows for just such things as he will now supply commercially.

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PENNY BANKS.—The inauguration of Penny Banks, in connection with local Agricultural Societies, has been a most useful idea. A Penny Bank is something with a definite and well-defined purpose, and all its workings are so simple, so clear, so understandable by all, that the members readily take to the idea.

It is really very commendable, and, in some places, is surprising, that so much money has been paid into some of the Penny Banks, but, more gratifying still, has remained there. At the formation of the Penny Bank by the Pedro Branch, an amount of £2 was deposited by the members right away at the meeting. We noticed on the books plenty of payments of one penny in some weeks by members; even that is an advance in not saving at all against future wants. We heartily commend the idea, and hope the Penny Bank will form a stepping stone to the more ambitious projects of Loan Banks.

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BANANAS.—In Hawaii they have only hitherto grown the dwarf or China banana, but they are introducing the Bluefields variety—the same as the Jamaica banana—on account of the qualities it pos-

esses, which makes it by far the best shipping bananas, and on account of the advantages it holds as a commercial product, as the variety best known in the American markets. Suckers have been distributed, in lots of from two or three, to fifty growers, who undertake to cultivate them in an experimental way, furnishing periodical reports on the growth and production. The China variety has the big advantage of not being easily blown over by wind, and it is also not so particular about quality of soil as our "Martinique" variety. Its disadvantages are that it does not carry very well, and we notice that if grown in very rich or rather damp soil, just where our variety would do best, the young fingers are often attacked by a blight at the blossom tip.

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REPORT OF HALF-YEARLY MEETING.—This report will appear in February number of the JOURNAL.

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PRIZE HOLDINGS COMPETITION.—The judging of the holdings in the competitions for Hanover and Westmoreland has been carried through. The judging for St. Mary will be done by Mr. Cradwick and Mr. Arnett in February. Mr. Cradwick has advised competitors as follows :—

Hope Gardens, Kingston P. O., January 6, 1908.

Dear Sir,—I beg to remind you that the judging of the holdings for the Small Holdings Competition, in the Parish of St. Mary, will commence about the second week in February. I trust that you are preparing your holding for the inspection by seeing that the fences and gates are in proper order : that the cultivation is as clean and tidy as you can make it ; that the stock are all nicely groomed and cleaned. That the house, kitchen, outbuildings, etc., which require it will get a coat of paint, or whitewash at the very least. All these things help to win prizes, and competitors often lose prizes through want of a little attention to these details. I am unable to say which day or week we shall judge your particular holdings, but we trust to be able to give you notice of the exact date, at least a week before hand.—Yours truly,

(Sgd.) W. CRADWICK.

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COTTON.—From 1st October, 1906, to 30th September, 1907, which is the cotton year, the total quantity of cotton shipped from Barbados (the produce of the 5,000 acres estimated to be under this crop) was 1,796 bales, containing 852,408 lbs. of lint, which, together with the cotton shipped, brought the total value of the cotton industry of Barbados to £76,876. The average price of the cotton works out at 1s. 8d. and a fraction per lb. That total is almost as much as the value of our coffee exports ; it is more than the total value of our orange exports for 1906-07, over a half more than the value of our exports of coconuts, a great deal more than the value of our cocoa exports for the last three years. In fact, we have in Jamaica only six items of exports, which amount to more than the value of the cotton exports from little Barbados, viz : coffee, bana-

nas, pimento, sugar, rum, and logwood. We have dry parts in Jamaica as large as the whole of Barbados, and well peopled, and for which cotton growing would make an ideal crop.

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PRÆDIAL LARCENY.—Some years ago, the Agricultural Society held an enquiry into this matter; Branch Societies were asked for their opinions, and a committee made recommendations, but we cannot find that anything practical resulted. The great majority of recommendations agreed that the simplest method of dealing with this plague was for the Justice of the Peace to be empowered to order flogging at the local police station for confirmed thieves.

Prædial larceny has, since then, always been with us, and instead of decreasing, has steadily increased, although prosecutions some years may have decreased, since, owing to the vagaries and weakness of some Resident Magistrates, strong encouragement has often been given to the delinquents to go back home, drop all pretence of work, and live by preying on neighbours. So people, who are preyed upon, lose time and money in prosecuting, besides losing the stolen stuff, and get laughed at also by the thieves, and their friends. Then the system of prosecution is expensive and cumbersome, and the system of punishment is also the same, and nearly useless anyhow; that is, by sending to prison.

The result is that, in some parts, agriculture is being actually paralysed, and, in others, hampered and overburdened by the expense in loss of crops and watching, through this persistent, often organized, thieving. The subject calls for a reasonable expression of public opinion again.

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COCOA.—The price of cocoa has been very high, and, although it has dropped a bit, the fact that manufacturers of table cocoa and chocolate have advanced their prices, and have been endeavouring to make contracts for supplies at much higher prices than the average of past years for a period of years, shows that they have no confidence in the price dropping substantially. It behoves us, therefore, to pay the closest attention to our cocoa trees. Our Instructors, in districts where cocoa is grown, have, fortunately, paid more particular attention to this industry than any other, and, not only has there been rapid planting, but existing full-grown trees, too often in a most neglected condition (we are referring to small settlers principally but not entirely), have been cleaned, pruned, and generally taken care of. The crops of many trees have been doubled by careful, cautious pruning. It is, usually, difficult to get a settler to prune anything; he thinks it waste of good material. But it has been brought home to him that the crowds of suckers springing from the stem of the tree are useless, and that the growth of every one has meant the loss of so much energy that ought to have gone to

make pods. Large spreading cocoa trees, in some districts, have never borne at all; judicious pruning and thinning of shade has brought them into bearing. We are, as a rule, careful of tree surgery, but there are cases so clear for pruning that no mistake can be made, such as the cutting off of crowded suckers springing from the main stem.

Every bearing cocoa tree is now a valuable asset, more, indeed, than anyone ever calculated upon when he planted them.

Shows.—On the 26th December the Trinityville Branch held an agricultural show at Trinityville, confined to members of the Branch and their families. It was a very promising show on the whole, although disappointing in two items that were expected to be better, namely, packed boxes of oranges and cured cocoa. The former would not have passed muster for export, and, with the latter, it was probably rather early to get crops. However, the results are encouraging enough to inspire hope of having a big Parish show next year. On New Year Day, the Appleton Branch held its show at Glenwyn Pen, Magotty. There was a good attendance, and the exhibits were good. The agricultural products were all that was expected in quantity, and were very promising as to quality. A very good show of cocoa was made for this district, and, if close attention is paid to existing cocoa trees, and in the careful planting of more, those valleys of north St. Elizabeth could, in a few years, become very productive. The live stock is what was somewhat disappointing, so close to the great breeding pens of St. Elizabeth. So far, however, the show has been chiefly confined to small settlers, and they have done well.

BRANCH NOTES.

Lititz and Nain.—At a meeting, held at Lititz on the 3rd December, when Mr. Palache, the local Instructor, and the Hon. Wm. Fawcett were present, eight new members joined, and are entitled to have JOURNALS sent them. Owing to the very recent formation of our Society, and its affiliation, anything like a report on its workings at this early date must be of a meagre nature as the sources from which such report comes, are, so to speak, new, and among the fewest possible. At any rate, there are indications of a progressive nature, as far as membership is concerned. Since the inception of the Society, some time late in October, there has been an increase of eighteen members. We now number forty-eight. This, I think, is encouraging, judging from the fact that we are in the midst of a people, who not very long ago, thought they knew as much about agriculture as was likely to be told them by any Instructor or authority on the subject. As far as crops are concerned, there is nothing favourable to add. Crops depend to a very great extent on rainfall, and up to the time of writing—over a year—rain has scarcely fallen in some districts. In districts, like Coma Pen and Blake's Pen, scarcely any rain at all has fallen, and nothing like real pond rain has fallen, even at Lititz. Here cultivation is looking down again. The favourable return expected from the crop of seed corn sent us by the parent Society, can only be applied to

a few districts, where a little rain has occasionally fallen. The peas did not, on the whole, do badly, as the effects of the rain we had did not quite die out before the crop was ready. Just now a representative cannot be sent, but, at the next General Meeting, I am sure some one will be able to attend.—P. F. HUTCHINSON, Secretary.

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Lucky Hill.—A meeting of the Lucky Hill Branch of the Agricultural Society was held in the Goshen schoolroom, on Wednesday, the 4th December, at 6.30 p.m. There were present: Messrs. H. Carson, E. Spence, E. Pottinger, W. Forbes, U. Smith, J. Vinzent, Chas. McIntosh, Chas. Husband, A. Saunders, George Pottinger, L. Barnett, the Secretary, and others. The jippi-jappa industry again claimed attention. Mr. Spence urged on the members present the necessity of each member, who was inclined to, to plant, say fifty plants, so that some arrangements could be made in the near future for getting an Instructor. The Secretary then gave a lecture on the "Merits of Coffee and Chocolate as Beverages." It proved a very interesting address, and he was accorded a vote of thanks. The rules of the Society were then read, subscriptions received, and the meeting terminated with the singing of the National Anthem. Heavy and continued showers of rain still continue to fall. Bananas go at £5 per hundred. The carters experience great difficulty in travelling over the roads in this rainy weather.—F. A. ANDERSON, Secretary.

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St. John's.—A special meeting, in connection with this Branch, was held at Kitson Town on Thursday, 5th December, at 6 p.m. Among those present were Rev. W. Burke, Messrs R. B. Farquharson (President), E. J. Hendricks, F. A. Vernal, J. B. Daley, E. Wilson, J. D. Campbell, and S. A. Banton (Secretary). At 6.30, Mr. Hirst, the Travelling Instructor, entered. By this time nearly all the members were present, as well as over fifty visitors. The Secretary rose and tendered a hearty welcome to the Instructor, and suggested that it would be a good thing for him to address the meeting on some of the benefits to be derived by being members of the Agricultural Society, also to give his opinion in regard to the water supply of this district, for agriculture and water go hand in hand. They had a tank, which is incomplete. The progress of the work is rather slow, and it is the opinion of the district that the work should have been completed before the rainy season is over. The President introduced the Instructor, and concurred with the remarks of the Secretary. Mr. Hirst expressed his appreciation for the hearty reception, but was sorry that he did not have an intimate knowledge of the district (this being his second visit), and, for that reason, could not say much about the water supply, but he knew that we were suffering a long time now, and pure water is indispensable to health. He had no doubt that, if we approached the authorities again, reasonably, they will remedy our grievances. As to the benefits to be derived, these were almost innumerable. The Agricultural Society, of itself, can do nothing, but we can do a great deal through the Agricultural Society. Knowledge was being disseminated. He showed, in various ways, how we can obtain good results, especially by co-operation. We should consider ourselves learners, for agriculture is an occupation in which a man may spend his lifetime, and yet find that he has far more to learn than he knows. We should always experiment for ourselves, and follow the suggestions of others, and, even though we might fail, still we should try again. The greatest results achieved were due to experiments in many of which there were failures at the beginning. This lecture, which lasted for one hour, was listened to with great attention. On the motion of the Secretary, a vote of thanks was accorded Mr. Hirst. Rev. W. Burke, in supporting, said it was absolutely necessary for us, as a people, to co-operate, and do whatever was possible to help ourselves. On the motion of Mr. Hendricks, a vote of thanks was also accorded the chairman. This speaker, in referring to the lecture, said that the lecturer did not

only know his subject, but could handle it. The following resolution was unanimously carried :—"It is the opinion of this meeting to again respectfully approach the Parochial Board of St. Catherine, in order that the tank at Kitson Town may be speedily completed before the rainy season is over, as they had been waiting patiently for four years for its completion." The singing of the National Anthem brought what might justly be called a record meeting of this Branch to a close.

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Maidstone.—On the 29th October, 1907, the Maidstone Branch of the Agricultural Society was started by Mr. J. T. Palache, the Agricultural Instructor for the Parish, who visited the District for the purpose. The meeting, as arranged, was held in the Nazareth schoolhouse, when about seventy of the leading planters and others of the District were present. Rev. J. E. Harvey presiding. The following officers were unanimously elected :—Rev. J. E. Harvey, President; Mr. J. A. Maxwell, Secretary and Treasurer. At a subsequent meeting, held on the 29th November, other officers to complete the business of the organization were appointed. The full list of members is as follows :—Rev. J. E. Harvey, President, with Rev. W. C. Morrison, and Mr. Peter Watson, Vice-Presidents; Mr. J. A. Maxwell, Secretary and Treasurer; Mr. Samuel Morris, Assistant Secretary; Managing Committee: Messrs. Charles Josephs, William T. Holness, Isaac Lyons, David Parnell, Jacob Powell, Alexander Welsh, William Parnell, Samuel Palmer, Matthew Carnegie, James Smith, Peter Smith, Miss G. M. Holness. Number of members, 42. Meetings are to be held monthly, and the headquarters is Nazareth, in schoolhouse. This Branch has made a fine start. At our first regular meeting, thirty members, and eight visitors, who subsequently became members, were present. Lively interest was shown on all matters brought forward, such as the forking of land, and better attention to staple products. The seasons are exceptionally good for this time of the year. A large crop of corn is expected to be reaped within the next few weeks.—J. A. MAXWELL, Hon. Secretary.

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Lamb's River.—A meeting of the above Branch of the Agricultural Society was held at Mount Hermon on Friday, December 6, 1907. Rev. T. B. Prentice, the Vice-President, took the chair in the absence of the President. Messrs. W. Cradwick and H. D. Mennell, Travelling Instructors, were present. The attendance was good. The Secretary reported that the Society's tools (three forks and one Dutch hoe) were in good order. Rev. T. B. Prentice reported that the fowls were in good health, but no eggs on hand yet. Messrs. T. A. Malcolm and J. E. Lawrence reported on their work of collecting the fees for tuition at the jippi-jappa hat-making classes. The Secretary was authorised to write and warn certain girls, who determined not to pay up, that, if they fail to make settlement, a legal action will be taken against them. The Society felt gratified on hearing that one of the girls taught by Miss Shaw made twelve shillings for one hat and eight shillings for another, and that other girls made up to nine shillings for a hat. The Society congratulated Miss Shaw on the success that has attended her work. Mr. Cradwick was heartily welcomed by all. He gave a very good explanation of how to wash jippi-jappa hats in the simplest and cheapest manner. He next gave a splendid address on Rubber. He taught how to plant the tree; how to do the "tapping," showing the tools used for the purpose, and how to prepare rubber, so as to get the best market value. The lecturer was listened to with great attention by all present. Mr. Cradwick was heartily thanked. Mr. Mennell, in his address, urged the friends to pay great importance to the proper draining of their land, the cultivation of their permanent crops, and the preparing of their produce to get the best market prices. Mr. Mennell was thanked for the address. The Vice-President read a letter from the President suggesting that a jippi-jappa hat-making competition

be held at Mount Hermon schoolroom on January 31, 1908. A first prize of 10s., and a second prize of 4s., are offered by J. R. Williams, Esq., and Rev. T. B. Prentice respectively. The Secretary was authorised to write to the girls, and state to them the conditions laid down, J. R. Williams, Esq. It was proposed by the President, and seconded by the Vice-President, Rev. T. B. Prentice, that the Society records its appreciation of Mr. P. A. Smellie's services as Secretary for two years, and its regret that his removal from this district has terminated his connection with the Society. Mr. Smellie replied suitably. Mr. J. E. Lawrence was asked to take charge of the books till next meeting.—P. A. SMELLIE, Secretary.

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Balaclava.—A meeting of the Balaclava Branch was held on Monday, 18th December. Despite the very heavy shower of rain that came down just about the hour when many of the members were likely to leave their homes, thirty interested persons assembled to listen to Mr. J. Thomson Palache. The President was absent, and Dr. J. Neish was asked to take the chair. The Secretary brought to the notice of the meeting, a letter, accompanied by programmes, that he received from the Secretary of the Appleton Branch, referring to the show, to be held on the 1st January, 1908. Mr. Palache very lucidly brought the claims of the Appleton show before the meeting, and invited the members to prepare exhibits. Intending exhibitors should bear in mind that applications for live stock should be sent to the Secretary, Mr. George Ramtallie, Siloah P. O., not later than 21st December, 1907, and that a certificate, duly signed by the President and the Secretary of the Branch to which they belong, should be forwarded with the application. The members present were amply repaid for any little discomforts they suffered through the rain. Mr. Palache had a practical subject, and he handled it in a practical and efficient manner to the entire satisfaction of every one present. The great requisites for the preparation of coffee, he said, were (1) a tank, (2) barbecues, (3) pulper, (4) threshing and fanning machines, Nos. 1, 2 and 3 were within the reach of the peasantry. Valuable hints were given as to the methods to be adopted in making them. No. 4 was beyond the reach of the individual peasant, but by co-operation, as is done in cheese-making in Switzerland, the difficulty would disappear. The lecturer drew the attention of the meeting to the peculiar property coffee possesses of losing its own odour and imbibing that of its next door neighbour. We warned them against placing their coffee in close proximity to anything impure. He also suggested that the coffee should be pulped, if possible, the same day it is picked. It was thought desirable that the Branch procure a small plot, to be planted and kept as a model. No sooner was the suggestion brought to the notice of Chas. Phang, Esq., than he generously offered the plot required. The following new members were enrolled:—Messrs. Wm. Lalor, Sol. Lalor, Eric Bernard, P. A. Cover, R. A. Munroe, Henry Foster, and Uriah Hibbert. Now that the Branch is interesting itself in the Evergreen road, there is every probability of the Manchester Parochial Board placing it on the schedule, and having it worked, thus supplying a long felt want.—A. A. DORAN, Secretary.

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St. George's.—The monthly meeting of the St. George's Branch of the Jamaica Agricultural Society was held in the Court House, Buff Bay. Mr. T. C. Geddes, Vice-President, presiding. There was a fair number of members present. After the minutes had been read and confirmed, Mr. Geddes proposed that a start should be made in the jippi-jappa hat-making industry at Buff Bay. He proposed, which was seconded by Mr. R. A. Burgess that a Committee should be formed to look after the initial stage of the class. The following members were elected to constitute the Committee: Rev. N. J. Thomson (chairman), Messrs. G. Russell, T. C. Geddes, and A. E. Gregory to be secretary. The Committee to meet on Saturday, the 21st, and to report at the next meeting of the work done.

The meeting was then adjourned until the 11th of January, 1908, when the annual meeting will be held. The weather, during the past month, has been very favourable for crops. Light showers, with good sunshine, has brought on the bananas wonderfully, after being set back by the drought. We have had a few northerners, but none of sufficient strength to do much damage to the crops. Ground provisions are still very scarce and dear. Eggs are selling from 1d. to 1½d. each, and are very hard to get. The belated cocoa crop is now at its height. Pods are, as a rule, small and poor. Prices, however, are good, being nearly double that of previous years.—WM. JACKSON. Hon. Secretary.

* *

Stewart Town.—The monthly meeting of this Branch was held on Thursday evening, the 26th December. There were present:—Hon. and Rev. W. M. Webb (President), Messrs. John Stockhausen (Treasurer), J. Davidson Brown, Chas. Bailey, James Smith, James Ferguson, Joseph Hall, Thomas Moreland, Uriah Roper, James Johnson, John Ricketts, W. N. Dougal, and the Secretary. The rules of the Branch were submitted and adopted, also the rules of the Cotton-growing Association, formed in connection with the Branch. These rules will be printed and distributed among the members in due course. A special meeting will be convened early in January for the allotment of the shares, and planting operations will begin early in March. Only one acre will be tried at first, and, if the venture succeed, the working capital will be increased, and the operations extended. On the motion of Mr. Charles Bailey, seconded by Mr. W. N. Dougal, it was unanimously agreed that a Penny Bank be started in connection with the Branch, but not confined to the members only.—JOSIAH JOHNSON. Hon. Secretary.

* *

Port Royal Mountains.—A special general meeting of the Port Royal Mountains Branch of the Agricultural Society was held at Mount Fletcher on Saturday, the 28th December. There were present: Rev. C. G. Hardwick (President), Rev. C. H. Coles, Mr. W. G. Thomson (Vice-President), Messrs. David Johnson, W. Patterson, John Davis, Robert Robinson, W. Dixon, Robert Simons, J. S. McDermott, Charles Davis, Thomas Davis, J. Whitworth, R. S. Tait, James Jacobs, C. C. Ireland, Aleander Roberts, F. N. McLean, W. A. Blake, and C. L. A. Rennalls (Secretary). The minutes of the last meeting were read and confirmed. It was proposed that the local show be held on Green Valley Flat during the first week of July next. The following were appointed the Show Committee: the officers of the Society, together with Messrs. R. Sidgewick, J. Whitworth, C. Davis, R. Simons, R. S. Henry, W. A. Blake, C. C. Ireland, James Jacobs, and R. S. Tait. In connection with the proposed Model Garden, to be laid out on the show ground, the Secretary intimated that he had applied for the grant given by the Parochial Board for the purpose, but had not yet received a reply. The question of combining to establish a depot in Kingston, where fresh vegetables from the Port Royal Mountains may always be had was again discussed, and a Committee, consisting of the officers of the Society, together with Messrs. Whitworth, Thomas Davis, and J. S. McDermott was appointed to look after it. On the subject of Agricultural Instructor, there was a good deal of discussion, the members expressing themselves pretty warmly on the matter. The following resolution was framed, and the Secretary requested to forward a copy to the parent Society, and one to the Board of Agriculture:—"That whereas in the last Prize Holdings Competition this District of Port Royal Mountains was unfairly treated, not getting the benefit of the competition, and, further, since the appointment of an Agricultural Instructor for these Parishes, this district has not been taken notice of, and has got none of the advantages and benefits we hear the other districts are deriving from the Instructor's visits, this Society respectfully represent its

claims to the parent Society, and also to the Board of Agriculture, that steps may be taken to remedy these grievances." It was resolved that a Prize Holdings Competition be started among the members of the Society and a Committee, consisting of the officers, together with Messrs. Thomas Davis, J. Whitworth, and J. S. McDermott, was appointed to arrange for same. The President intimated that he had tendered, personally, to the Governor the resolution of satisfaction and congratulation passed at the last general meeting. He also intimated that His Excellency the Governor still expresses much interest in the welfare of this Society, and is anxious that the Society keep up its annual show. It was the unanimous opinion of the members that the operation of the Produce Protection Law caused great hardship to the masses, especially in the matter of oranges, and that a representation be made to the Colonial Secretary, and the parent Society on the matter. On the motion of the Rev. C. H. Coles, seconded by the Rev. C. G. Hardwick, it was resolved that the Society request the Parochial Board, and any other parties concerned to improve the communications between Mavis Bank and Silver Hill Gap by means of a first-class bridle road along the valley, as well as upon the hillsides, so that the districts between may get the benefit of easy touch with the driving roads at each end.—C. L. A. RENNALLS, Secretary.

* *

St. Peter's.—After a full year's postponement, St. Peter's Branch met for business in Petersfield schoolroom on the 21st December, 1907. There were present: Messrs. J. T. Turner (President), W. Cradwick and H. D. D. Mennel (Travelling Instructors), John Tate, W. Leslie, Joseph Fairclough, Samuel Murray, Mrs. Elizabeth Forrest, and Mrs. Catherine Headley, Rev. J. I. Kirschmann, and Messrs. W. Bockford and David Reid (visitors), and J. Ed. Simms (Secretary). No minutes were read. The President warmly welcomed Mr. Cradwick, who, in responding, expressed great pleasure in being privileged to be once again present with his friends at Petersfield. He, however, regretted very much the sleepy state of the members of St. Peter's Agricultural Society, but hoped for a speedy revival. He was sorry to state that the holdings were not improved a bit. This, to his mind, was owing to lack of interest on the part of those concerned. He further stated that he believed that the drought, and discontinuance of the Paradise show, had a hand in bringing about the lack of interest exhibited. On the motion of Mr. Cradwick, seconded by Mr. Turner, and carried unanimously, the Rev. J. I. Kirschmann was made a member, then followed the election of officers for the ensuing year. At this point Mr. Turner vacated the chair, but was asked by those present to keep it during election. He consented. Mr. Turner moved, seconded by Mr. Mennel, that the Rev. J. I. Kirschmann become President. This was received with great satisfaction by the meeting. For Vice-President, Mr. Turner was elected; Treasurer: Rev. J. I. Kirschmann; Secretary: J. Ed. Simms; Committee: President, Vice-President, Secretary, Messrs. Murray, Knott, Leslie, Wheatle, Furze, Fairclough, John Plummer, Mrs. M. A. Plummer, and Mrs. Elizabeth Forrest. It was decided that at next meeting Mr. Turner, Ex-treasurer, hand over the Treasurer's book, and should present a balance sheet. The non-receipts of the JOURNALS of the Jamaica Agricultural Society since April, 1907, and the affiliation fee for current year came up for discussion. Mr. Turner presented receipt for fee, dated 25th May, 1907, from Secretary of the Jamaica Agricultural Society. The Secretary was requested to write Mr. Barclay on the matter. It was agreed upon that the JOURNALS be sent to the address of each member. Next meeting to be held on the fourth Saturday in January, 1908. Notice of motion to change date of meeting. Letter from Messrs. John Haddon & Co. *re* buying-produce was read. Messrs. Cradwick and Mennel spoke on co-operation. Votes of thanks were moved, seconded, and carried to Ex-president and Treasurer, Secretary, and Mr. Cradwick, and the meeting terminated.—J. ED. SIMMS, Hon. Secretary.

The Journal

OF THE

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No. 2.

THE HALF-YEARLY GENERAL MEETING.

THE Half-yearly General Meeting of the Agricultural Society was held at 82 Hanover Street, Kingston, on Thursday, the 12th December, at 12.45 a.m. Present: His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. W. Fawcett, H. T. Ronaldson, R. P. Simmonds, Messrs. D. Campbell, John Cameron, R. Craig, E. W. Muirhead, J. R. Williams, members of the Board of Management, and the following members:—A. C. L. Martin, Great Valley, Manchester; R. A. Jones, Æolus Valley Branch, St. Thomas; G. A. Payne, Kingston; Rev. J. D. Purdy, Lawrence Tavern, St. Andrew; J. H. E. Hemans, Bog Walk; J. E. Thomson, Halfway-Tree; J. Curphy, Kingston, and the Secretary, John Barclay.

His Excellency said that as the Report of the last half-yearly meeting had been published in the August JOURNAL it might be taken as read. This was agreed to.

The Secretary presented the Half-yearly Report to the 30th September as follows:—

I have the honour to submit my Report for the half-year ending 30th September, 1907, as follows:—

BOARD OF MANAGEMENT.—During the six months four ordinary meetings of the Board were held in April, June, July, and September, no meetings being held in May and August.

The half-yearly general meeting was held on the 20th June.

The attendance of the members of the Board of Management was as follows:—

	Ordinary.	Half-yearly.	Total.
His Excellency Sir Sydney Olivier,			
K.C.M.G.	2	—	2
Hon. Lieut.-Col. C. J. Ward, C.M.G.	—	—	—
Hon. Dr. Pringle, C.M.G.	1	—	1
Hon. H. Clarence Bourne, C.M.G.	2	—	2
Hon. L. J. Bertram, C.M.G.	2	—	2
Bishop Collins	—	1	1
Robert Craig	3	1	4
D. Campbell	3	—	3

		Ordinary.	Half-yearly.	Total.
John Cameron	..	—	—	—
C. A. T. Fursdon	..	3	1	4
Ralph Hotchkin	..	1	—	1
Hon. Geo. McGrath	..	3	1	4
E. W. Muirhead	..	2	—	2
Hon. H. T. Ronaldson	..	2	—	2
J. Shore	..	1	1	2
Hon. R. P. Simmonds	..	2	—	2
R. A. Walcott	..	1	—	1
J. R. Williams	..	1	1	2
Hon. W. Fawcett	..	2	—	2
John Barclay	..	4	1	5

Mr. Hotchkin has been absent from the Island for five months, and will not, probably, be resident here in future for more than a few months in each year. A new member falls to be elected in his room. Bishop Collins has been absent from the Island for a period. Dr. Pringle is away for four months, beginning from July, and Mr. Cameron and Mr. Shore for two months, beginning from September. Mr. Fawcett was on leave for two months.

His Excellency Sir Sydney Olivier arrived in the Island in May, and attended the meeting of the Board as President in August.

To suit alterations in time of trains on the Port Antonio section of the Railway, the time of the meeting of the Board was altered from 11.30 to 11.45 a.m.

The chief business transacted by the Board during the six months has been as follows :—

NEW ARRANGEMENTS FOR INSTRUCTORS.—The whole matter of the Instructors, which had been under consideration for several years, was at last settled for a specific period by the utilisation for the payment of our Agricultural Instructors of the amounts received, and to be received, from Messrs. Elder, Dempster & Co. in lieu of the six agents for agricultural instruction required of them by their contract. The appointment of Mr. Hirst as Instructor for St. Catherine and Clarendon completed the division of the Island into instructoral districts as follows :—St. Ann, Trelawny, and Eastern St. James, Mr. E. Arnett, Stewart Town P.O. ; Manchester and St. Elizabeth, Mr. J. T. Palache, Mandeville P.O. ; Westmoreland, Hanover and Western St. James, Mr. H. D. D. Mennell, Darliston P.O. ; Clarendon and St. Catherine, Mr. J. Hirst, Mocho P.O., while the Instructors under the Board of Agriculture take the rest of the Island as follows :—Portland and St. Mary, Mr. W. Cradwick, Port Antonio P.O. ; St. Andrew and St. Thomas, Mr. J. Briscoe, Kingston P.O.

Besides the Society's allocation of £320 per annum, there is also available the £500 per annum from Messrs. Elder, Dempster & Co. in lieu of the six skilled agents required under their contract, and a sum of £230 per annum available from the amounts accumulated therefrom.

In all there is, therefore, £1,050 per annum available for the Society's Instructors until January, 1911.

The full statement of account *re* Instructors was published in the JOURNAL for October, page 209, for reference.

VETERINARY INSPECTOR.—The Acting Veterinary Inspector, Mr. Robert Rain, appointed on the death of Mr. J. M. Gibb in January last, having died suddenly in May last, the Government appointed Mr. E. Tavares to act temporarily. The Society's recommendation to the Government to appoint a Government Veterinary Surgeon at a fixed salary, with private practice, was again brought forward on receipt of a despatch from Lord Elgin recommending such appointments for the colonies where possible, and which the Board considered endorsed the position they had taken up. The Government promised to reconsider the matter.

RAT VIRUS.—This important subject to agriculture has been frequently discussed, namely, the necessity of finding some more effective and destructive agent than ordinary poisons or trapping for getting rid of rats, owing to the increasing damage being done by these pests in cultivations, especially cocoa. Various makes of virus, already on the market, were reported to have been tried, sometimes successfully, more often not, and a new virus, Ratin, was experimented with unsuccessfully by members. Finally, the Island Chemist was authorised by the Government to initiate a rat virus service with the view of cultivating a local virus, which will not readily become inert in our climate like the imported virus, and which could be supplied at a low price.

BRUSSELS SUGAR CONVENTION.—After consideration by the Board, a resolution to the Secretary of State for the Colonies was passed at the last half-yearly general meeting protesting against the withdrawal of Great Britain from the Brussels Convention.

IMPORT DUTY ON LIVE STOCK.—The matter of the withdrawal of the duty on breeding stock imported into the Island was submitted to the Live Stock Committee to make a report, and this is under their consideration.

AGRICULTURAL CONFERENCE.—At the request of the Government, arising out of communications from Sir Daniel Morris on the subject, the Board considered the matter of holding the next West India Agricultural Conference here in January, 1908, and they decided it would be desirable, provided the necessary steamship connection at Barbados was obtainable.

COTTON.—The medals offered by Sir Alfred Jones for the best cultivations of cotton, and competed for under the auspices of the Board were awarded as follows:—The gold medal to Mr. L. G. Desporte, Industry, Halfway-Tree, and the silver medal to Mr. A. M. Lewis, Yallahs. The bronze medal was not awarded.

These medals were presented to Mr. Desporte, and Mr. Lewis by His Excellency Sir Sydney Olivier, at the meeting of the Board held in September, at which these gentlemen attended.

A grant of £2 was given to Mr. Arnett, Agricultural Instructor, at his request for establishing small plots of Sea Island cotton on the seaboard of St. Ann, Trelawny, and Eastern St. James.

PREMIUMS ON IMPORTED STOCK.—The Secretary was instructed to inspect the imported bulls entered for the premiums offered by the Society in order that the awards might now be made.

IMPORTATION OF SEEDS AND PLANTS.—At the request of the Governor the Board considered whether the prohibition of the importation of seeds and plants into Jamaica from Natal, South India, Ceylon, Mauritius, Java, and Fiji might now be withdrawn, provided such seeds were disinfected on arrival. After reference to the Staple and Minor Products Committee, it was agreed to recommend the withdrawal of the prohibition, as mentioned, on condition of the disinfection process being carried through.

Other matters considered by the Board were arrangements for distribution of prizes won in the prize holdings competition; machines for decorticating ramie and banana fibre; prevalence of white scale; citric acid; bulls; inspection of fruit steamers, etc.

PRIZE HOLDINGS.—The competition this year is being carried through in Westmoreland, Hanover, and St. Mary, and the entries are likely to far exceed the number in the previous competitions. It is now necessary to fix the parishes to be taken in in the next round. If the allocation could be increased to the original amount, £125, instead of £100, it would enable the parishes to be more evenly arranged in groups of four, as at first, instead of three as at present, which leaves odd parishes to be dealt with, and it would let the competition go round more quickly.

GRANTS.—A grant of £10 was made for providing seeds and plants for the people in the drought-stricken districts of St. Elizabeth, and, at the request of the Secretary, this was supplemented by £10 from the *Gleaner* newspaper fund. A further grant of £10 was made by the Board for the same purpose, and also a grant of £10 for an experimental provision ground in St. Elizabeth, to be carried through by the Agricultural Instructor, Mr. Palache. Through these grants the people to some extent were able to plant good seed corn and beans, and potato slips whenever rains fell. A grant of £2 was also given to Mr. Arnett to carry through some experimental plots of Sea Island cotton to the extent of a chain each, letting the people work the experiment themselves on their own land, he paying for the labour. This is a useful idea.

SHOWS.—All the shows, usually held between April and September, were dropped, owing principally to the effects of the drought. Arrangements, however, have been made for the holding of two shows in the following half year at Trinityville and Appleton. Kendal show was arranged to be held in January if the Agricultural Conference had been held here, but now will be held later in 1908, probably, in March or June.

JOURNAL.—Owing to difficulties in printing only one JOURNAL was issued for May, June, and July, inclusive. For the other months

of the half year, April, August, and September, the JOURNAL was issued as usual. A new contract has now been made with Mr. Aaron M. Sollas, Duke Street, Kingston, on the old terms, and the JOURNAL is now being issued as usual. Owing to being without a contract, and on account of the increased cost of printing, and also owing to the increasing number of Branch Societies, the JOURNAL has cost more than formerly, but this will be more than made up by the increased receipts for advertising. Most of the leaflet reprints of useful JOURNAL articles were not recovered after the earthquake, and if we could afford the expense, it would be useful again to be able to print off some of the most useful articles in leaflet form. If new Branches continue to increase, as they are doing, it will be necessary to increase the number of JOURNALS printed. Formerly, a less number cost more money. In 1900, the JOURNAL cost £450, but for five years the amount has been kept under the reduced allocation of £315 by using cheap paper and type, and dropping the illustrations. The number printed is 3,200.

FINANCE.—We commenced the year with a credit balance of £306 16s. 5d. I estimate we shall have a balance of £226 7s. 4d. as at 31st March, 1908. The estimates for next year now fall to be considered. I would point out that some allocations were completely struck out a few years ago. One of these was Grants to Shows. I think most people in the country are convinced that this was a mistake. It not only tended to make Branch Societies think the Society no longer wished to encourage the holding of shows, but it left no central control over their arrangements, so that all sorts of amusements outside the purposes of a show proper could be introduced, and, more than all, it left the Instructors and myself with no *locus standi*, an extremely awkward position for us to be in.

The allocation for Experiments was also struck out. It was only a small grant of £5, but very useful. I have been sorely handicapped sometimes by not having an amount available for any small experiment. I have often to test seeds; I should test various preparations offered to me as being useful to agriculture. An Instructor wanted a few pounds of sulphate of iron to carry out a test wash against a fungoid trouble on cocoa trees in Upper Clarendon. I had no funds to supply this. An Instructor wanted a few pounds of copper sulphate to experiment on supposed cases of bud-rot on coconut trees. I could not supply it. An Instructor finds vegetables in his district eaten up by wire-worms. There is a proprietary remedy successfully used in the United Kingdom, called Vaporite. If this could have been tested here, and found successful, it could then have been stocked by merchants and offered to the public. An Instructor wishes to convince settlers of some better methods of dealing with some of their staple crops, but it often happens he cannot get one of them to allow him to experiment in his grounds, but if he could pay the settler a trifle to plant, or prune, or generally work, a chain of his land, according to the desired method as an object lesson, it would be most impressive, but there are no funds to do

this. A simple preventive of bud-rot on coconut trees is reported to have been used. I asked an Instructor to test this method, but there are no funds to get a few shillings worth of material. Out of sheer interest, and a desire to gain knowledge for our work, the Society's Instructors and myself often carry out small experiments at our own expense. I have referred to Prize Holdings in the paragraph under these headings. The allocation for Exhibitions was also struck out. The Island is no longer represented in any way at Exhibitions. Sir Daniel Morris is especially anxious for the proper representation of the West Indies at Canadian Exhibitions, but if we do not have sufficient funds to be represented well, it is better not to be represented at all.

STATIONERY.—Owing to the loss of our stationery in the earthquake, and the necessity of its renewal, and owing also to supplies of stationery being furnished now to the Instructors, there will be an excess in the allocation for stationery and sundry printing. There will also be an excess of the allocation for printing the JOURNAL, owing, first, to the greater cost of printing it after the earthquake, and before a new contract could be made, and, also, owing to the continual increase of Branch Societies, necessitating the printing of a larger number. In the last six months two new Branches have been formed, and six or seven more are in contemplation at this date.

FURNITURE.—There is already an excess on the allocation for furniture, as tables and desks had to be renewed. Fortunately, most of our chairs were saved without harm. Our office equipment is still bare; we have no presses for keeping stationery, nor for letters and papers to be filed; no lockfast places for important documents, and few shelves and pigeon-holes for the storing of the JOURNALS and exchange papers, so that quick reference to papers is sometimes a difficulty. The usual allocation of £5 could not, of course, cover the cost of these furnishings. A special vote of £20 was made by the Board, to be taken from any other allocations not spent, to re-supply such furniture, books, and papers, and repairs to the office meantime that could not be done without; and this is the authority for the excess on furniture, stationery, and sundries.

OFFICE.—The number of letters received for the half year was 2,392, and the number despatched 2,692. The following is an abstract of the subjects:—Board of Management 83, Board of Agriculture 7, Branches 117, Agricultural Conference 26, Cotton 247, Drought 106, General Products 170, Journal 381, Instructors 120, Rubber 34, Shows 12, Cattle and Horsekind 126, Small Stock and Bees 138, Society's Bulls 58, Sundry Seeds and Plants 251, Poultry 169, Prize Holdings 84, Potatoes 81, St. Elizabeth Seed Fund 61, Vegetable Seeds 50, Sundry 371; Total 2,692.

This year there is a completely new staff, all young and inexperienced. It causes great inconvenience to have constant changes, as it takes a considerable time for clerks to become familiar with the peculiar nature of our work; the handling of seeds alone is work

requiring the greatest care and accuracy. But the wages offered are too small to keep clerks long, and as no increase for good work can be offered, there is little encouragement for a clerk to take trouble to improve in knowledge of details, or familiarise himself with agricultural terms and requirements. If an addition could be made to the allocation for the staff, a clerk could be rewarded according to the degree he made himself useful. I consider that it takes from two to three years to make a stenographer and typist familiar enough with agricultural terms and our requirements to be accurate and responsible.

I am expected to travel, and it is useful to all concerned—the Branches, Instructors, and the Office—that we should thus be kept closely in touch, and understand our mutual work better, but it is rather exacting for me to be two weeks away at a time, and, at the same time, be expected to run the office work, as usual, without delay in correspondence, matters for Committees, the JOURNAL, and the sundry office matters that require prompt attention and keen supervision to prevent error.

In August, I visited Manchester and St. Elizabeth, covering a period of two weeks, in company with Mr. Palache, and addressed ten meetings, other two meetings not being held, owing to heavy rains. During the first fortnight of October, I visited St. Ann and Trelawny, in company with Mr. Arnett, and addressed six meetings. I have also arranged to visit other Instructors' districts later on.

Seed corn, guinea corn, cow peas, cotton seed, seed potatoes, and vegetable seeds have been supplied, and live stock imported, as usual, through the medium of the office. It is noteworthy that more cow peas have been in demand for green dressing—by banana planters especially—than in any two years previous put together, the demand, indeed, being greater than the supply. Some banana growers, who planted cow peas through their plants in the spring, foreseeing the demand likely to take place, allowed them to bear seed. They had large yields, which were disposed of readily, both for planting and eating purposes, and the proceeds, I am informed, have more than paid the costs of their bananas.

A statement and abstract *re* the accounts is appended.

JOHN BARCLAY,
Secretary.

FINANCIAL STATEMENT.

EXPENDITURE.

	Allocation 1907-08.			Estimated Total to 31st March, 1907-08.		
	£	s.	d.	£	s.	d.
Secretary's Salary	250	0	0	250	0	0
Clerks, Typist, and Office Messenger	184	0	0	184	0	0
Instructors { E., D. & Co., £680 } { J. A. S. 320 }	1,000	0	0	1,000	0	0
Rent and Taxes	48	0	0	32	4	0
Office Furniture	5	0	0	12	6	3
Printing Journal	315	0	0	360	5	6
Postage and Carriage	25	0	0	25	0	0
Stationery and Sundry Printing	35	0	0	60	0	0
Prize Holdings	100	0	0	100	0	0
Stallion Expenses	40	0	0	40	0	0
Bulls	5	0	0	5	10	0
Agricultural Shows	—	—	—	—	—	—
Experiments	—	—	—	—	—	—
Exhibitions	—	—	—	—	—	—
Travelling (Secretary and Staff)	80	0	0	80	0	0
Telephone	7	4	0	7	1	6
Advertising	3	0	0	3	0	0
Sundries	40	0	0	60	1	10
	2,137	4	0	2,219	9	1
Deduct Amount from E., D. & Co.	680	0	0	680	0	0
	1,457	4	0	1,539	9	1

RECEIPTS.

	£	s.	d.	£	s.	d.
Subscriptions	90	0	0	90	0	0
Advertisements	40	0	0	80	0	0
Stallion Fees	40	0	0	20	0	0
Small Holdings	7	10	0	7	10	0
Affiliations	10	0	0	10	0	0
Bulls	—	—	—	7	0	0
Journals	1	0	0	1	0	0
Sundries	1	0	0	1	0	0
	189	10	0	216	10	0
Deduct Small Holdings Fees } given in Prizes }	7	10	0	7	10	0
	£182	0	0	209	0	0

ABSTRACT OF ACCOUNTS.

		£	s.	d.
Balance brought forward from 1906-07	—	306	16	5
Estimated Income for year 1907-08	—	209	0	0
Government Grant	—	1,250	0	0
Amount from Elder, Dempster & Co. on account of Instructors	—	£ 680	—	—
		1,765	16	5
Estimated Total Expenditure to 31st March, 1908		1,539	9	1
Estimated Balance at credit as at 31st March, 1908		£ 226	7	4

ESTIMATES FOR THE YEAR 1908-09.

EXPENDITURE.	Allocation 1907-08			Estimates Recommended for 1908-1909.		
	£	s.	D.	£	s.	D.
Secretary's Salary	250	0	0	300	0	0
Clerks, Typist, and Office Messenger	184	0	0	200	0	0
Local Instructors (3)	320	0	0	320	0	0
Rent and Taxes	48	0	0	48	0	0
Office Furniture	5	0	0	50	0	0
Printing Journal	315	0	0	330	0	0
Postage and Carriage	25	0	0	25	0	0
Stationery and Sundry Printing	35	0	0	40	0	0
Prize Holdings	100	0	0	125	0	0
Stallion Expenses	40	0	0	40	0	0
Bulls	5	0	0	5	0	0
Agricultural Shows	..			100	0	0
Experiments	..			5	0	0
Travelling	80	0	0	80	0	0
Telephone	7	4	0	7	4	0
Advertising	3	0	0	5	0	0
Sundries	40	0	0	40	0	0
Total	1,457	4	0	1,720	4	0

RECEIPTS.						
Subscriptions	—	90	0	0	90	0
Advertisements	—	40	0	0	80	0
Stallion Fees	—	40	0	0	30	0
Small Holdings	—	7	10	0	10	0
Affiliations	—	10	0	0	10	0
Bulls	—	—			5	0
Journals	—	1	0	0	2	0
Sundries	—	1	0	0	2	0
		£189	10	0	229	0

INSTRUCTORS.—Mr. Martin suggested that the visits of the Agricultural Instructors should be advertised longer than they were advertised at present. In the case of the Instructor for his Parish (Manchester), his visits were simply announced by the clergyman from the church. The announcements of the visits of the Instructor could still be given through the same channel, but longer notice was required.

The Secretary said that during this year it had been very difficult for the Instructors to have given long intimation of their visits, owing to much interruption in their work by special calls. He already supplied posters to announce the Instructors' meetings, and he would call their attention to Mr. Martin's remarks.

Mr. Muirhead also asked if the meetings had always been held when notices were given? He had asked the question, because he was told that sometimes the meetings were not held.

Mr. Barclay said sometimes meetings that had been fixed had not been attended by Instructors. In most cases it was due to some misunderstanding between local Secretaries and the Instructors as to the date, but it seldom happened.

His Excellency said the Secretary and the Instructors would, he was sure, do all they could to give the notices a good time ahead.

Mr. Hemans said he had been living at Bog Walk since last year November, and he had never seen an Agricultural Instructor in that district since he had been there.

The Secretary said Mr. Hirst had only been appointed Instructor for St. Catherine and Clarendon in July this year, and he had just passed through St. Catherine. He could not call on every one there, and he could not know who wanted his services, unless he was advised. However, he would now ask Mr. Hirst to call on Mr. Hemans on his next visit to St. Catherine.

VETERINARY INSPECTOR.—Mr. Craig asked if the Government had done anything in regard to the appointment of a Government Veterinary Inspector.

His Excellency said the matter had not been discussed by the Privy Council, but he expected that it would soon come before them. He might mention though that he did not see that there would be sufficient value in this appointment to justify the Government paying £400 a year to obtain the services of a well qualified man. The suggestion of the Secretary of State for the Colonies, in which this matter arose, came chiefly in consequence of their experience in Western Africa, where large districts were visited by severe diseases, making it impossible for cattle and horses to live. The policy of the Colonial Office had been to appoint specially qualified men in scientific research to go to Western Africa to study this new disease, because making it possible for cattle to live where they had not been able to live before, was of great value to the community. But in Jamaica that was not the position. They had certain well-known established diseases among cattle and horses, and he did not think

any special scientific research was required. That was his impression, at any rate. The diseases among cattle out here were well known, more or less, and the local penkeepers, and the local veterinary practitioners knew how to deal with them. Therefore, he did not think that the government would be justified in paying the salary to this well qualified man. On the other hand, there was the suggestion that such a man would be available for the use of the penkeepers and others. In the first place, was it necessary for the government to subsidise a veterinary surgeon for the use of the penkeepers of the Island? And, in the next place, was it certain that such a man would be available for service all over the Island? Would he be able to go, say to Westmoreland or St. James, at a moment's notice to give his services to any particular penkeeper there? And if he was not able to do that, would not those penkeepers at a distance off, who could not get his services, have some cause to complain that here was a man, subsidised by the Government, from whom they could get no benefit. Therefore, it was from that point of view that he had not seen his way to propose, or recommend, or acquiesce in the proposal to endow a qualified Government Veterinary Surgeon at a salary of not less than £350 to £400. Those were his personal views, but he would consult the Privy Council on the matter.

Mr. Craig asked what about the Contagious Diseases Animals Law that the Society had considered and made recommendations to the Government. If it was passed then it would be necessary to have this well qualified Veterinary Surgeon.

AGRICULTURAL SHOWS.—His Excellency said that the amount of money for agricultural shows had been restored to the Estimates, and he hoped that, with the encouragement of grants, there would be more shows held as before.

THE SOCIETY'S GRANT.—Mr. Craig said it was very gratifying to know that His Excellency the Governor had agreed to give the Society an increase to its annual grant.

His Excellency : I cannot give the increase.

Mr. Craig : Yes, sir, but you will propose it. I, for one, am pleased to know that there is a prospect of our having some money at our disposal by which we can do more.

PRÆDIAL LARCENY.—Mr. A. C. L. Martin, in introducing the subject, said he thought the Society should again take up the matter and see if some stringent law cannot be passed. They in the country could not cultivate their lands on account of the prædial thief. They would, no doubt, be told that this thing was done in times of drought, but they found that it was chiefly the young fellows of between 18 and 20 years of age who committed prædial larceny. They were too lazy to work, and they went into other people's fields and plundered everything. He did not think the Governor and the members of the Board of Management realised what the cultivators lost by this thing, or what the country lost. He could not grow enough provisions to feed his own household, on account of the prædial thief, and, furthermore, when they caught these thieves they had a

great deal of difficulty in getting them punished. They had to waste a day in going to a Magistrate six or seven miles away, and very often he was not found at home, and, then, they had to waste another day to go to court on the day of the trial. He thought some means should be devised to have the thief tried immediately after he was caught. He thought something like that was done in Canada. And when the thief was first convicted, he should be strongly dealt with. In Southern Manchester, if it were not for the prædial thief, they could grow provisions to supply nearly the whole Parish. He would ask the Society to take up the matter.

His Excellency said this matter had been very fully threshed out from the time of his first connection with the island. He was not sure that the fault was in the present law so much as in the difficulty of catching the thief and convicting him. Mr. Martin suggested that the thief should not be trifled with when he was caught. His impression was that the Resident Magistrate for Manchester was not a man to trifle with those cases, and the present law said that a man convicted of this offence should receive corporal punishment at a second offence. Mr. Martin also complained about the trouble of bringing the thief to justice.

Mr. Martin : Yes, sir ; we have to waste, at least, two days, and sometimes we cannot spend this time over it.

His Excellency said they must have some kind of formality, unless they wanted to deal with the matter themselves. If there was a strong public opinion in Southern Manchester against prædial larceny, he thought more cases would be dealt with out of court in a manner that would abate the evil. He was afraid that the general opinion in Southern Manchester was not keen about it.

Mr. Martin said it was difficult to deal with the matter. The moment they caught a man stealing, his brother or father came and begged for him to be pardoned. It would take a long time before public opinion would be stirred in this matter.

Mr. Muirhead said he did not think this evil was confined to Southern Manchester. He did not think that part of the parish was worse off than Northern or Central Manchester. There were a great many difficulties in the way. Prædial larceny was mostly committed, as Mr. Martin had told them, by people who could work, and, although the Resident Magistrate dealt pretty severely with the offenders when they were brought to justice, it did not seem to have the desired effect. The small settlers in Manchester were practically debarred from cultivating some of their lands. The fields were entered at all times, and the day when the proprietor was away from home, was the day when the thief would carry out his work. And what was more : a certain class of cultivators kept up their cultivations in order to give people work all the time, and that was the thanks they got.

His Excellency said he knew that the discouragements in Manchester had been great. Mr. Martin said that cultivation had been practically made impossible. He was told that when he first came

here, but he was satisfied now that there was a great deal more cultivation carried on by small settlers than there was three years ago. He was assured to that effect by Mr. Palache : so that, although he was told that prædial larceny would extinguish the small cultivators, it had not done so yet. Cultivations were growing, and the more people they had interested in crops, the more public opinion would grow against this evil, and that seemed to be the only hope of this thing, in a country, where, as Mr. Martin said, public sympathy is always in favour of the thief, and where a great amount of commiseration was shown. When they get more people interested in crops, public opinion would turn against the thief. That was the only way of checking the prædial larceny habit in Jamaica—to extend the work of the Society in improving cultivation, and so increase the interest of the people in cultivations.

Mr. Craig suggested that, perhaps, they might have another Conference on this subject, and they might be able to have a special law to deal with the matter.

Mr. Williams said, if the prædial larceny law should ever come up for reconsideration, one of the points to be considered was whether the present law was not ineffective in prohibiting corporal punishment for a first offence. This amounted to allowing the prædial thief to have his first bite, and caused the law to lose its most valuable deterrent effect. Such punishment for first offences would be rare, and hedged around with restrictions, as in some places where the Resident Magistrate inflicting it was compelled to make a special report on every case where this punishment was imposed for a first offence. But this ought to be available partly to increase the deterrent effect of the law, or in case of organised raids, or where able-bodied men plundered those who were exceedingly poor.

Mr. Muirhead said that many people did not look upon it as a disgrace to go to prison. Was the treatment in prison such as would make them return to that place again, or did it tend to make them better? Some of these people went back to prison within a few months of the time they came out.

Mr. Payne expressed the opinion that flogging would be the only thing that could stop the evil.

Mr. Hemans said such corporal punishment to prædial thieves should be done in public, and then it might have some effect.

HORSE-BREEDING INDUSTRY.—Mr. A. C. L. Martin said he thought the Society might do something more towards improving the stock-breeding industry of the island. This was said to be a horse-breeding country, and yet it was difficult at times to get a good pair of carriage horses to buy. That was due to the inferior stud animals that were sent about at a low fee, and the man who had a really good horse did not get patronised as he ought to. Every man who kept a stud animal should be made to present him for inspection, and have a certificate that he was a fit and proper animal, or he should be made to pay a very heavy license, and, in that way, the horse-breeding industry would be improved.

Mr. Craig said what Mr. Martin had represented was quite correct. About seventeen years ago he brought in a bill in the Legislative Council providing to impose a tax of £3 on all entire animals of three years old and upwards, the effect of which would have been to weed out all undesirable stud animals. It was intended to protect the men who had good stock, but it was opposed and was not carried.

His Excellency said the Live Stock Committee of the Society had endeavoured to meet this matter before by the offering of premiums to good sires, but the Board could discuss the matter further.

The meeting adjourned.

VANILLA.

THE Rev. John Maxwell was authorised by the Board of Agriculture to visit parts of Northern St. Elizabeth, where vanilla was growing, in October and November, when beans were expected to be ready on the vines for picking, and show the owners how to cure the pods. He has made an interesting report, from which we take the following :—" At Mulberry we found a great many vines growing on pimento and fruit trees. I am not sure whether the vanilla bean would extract any of its flavour from the pimento or not, but from the fact that boys have to climb the trees to break the pimento, the chances are that they might break the vines. On these grounds I would avoid planting them on trees that boys have to climb. Most of the vines we saw were starving for want of food—the roots were exposed, dug out by fowls or pigs. What they wanted was mulching, and there was plenty of bush in the immediate neighbourhood to supply all that was necessary. [Pigs and fowls can be prevented scraping away the mulch by placing some flat stones around the roots of the vines.—ED.] We advised planting on low trees or bushes, which could easily be reached standing on the ground for convenience in fertilising. We visited the school gardens at Glen Stewart and White Hall, and planted two vines at each place, giving instructions to teacher and children present on the culture and care necessary to secure rapid growth. I would like to see a few vanilla vines in all the school gardens or teachers' premises in suitable districts in Jamaica. The children could be taught quite easily all that is necessary about the growing and curing, and the school gardens would be a good centre for the Instructors. I revisited the districts in November, and was very pleased at the progress that had been made since I was there in October. Hundreds of cuttings had been planted since then. Some of the cultivators were grumbling about the quantity of cuttings that were being stolen all about. This is, at least, a sign that the cultivation is taking a good hold in the district."

* *

Teachers should note to get cuttings of vanilla to plant in their school gardens. Almost any smooth-barked tree (one that does not shed its bark) that does not grow too high before it makes branches

will do. Ask for cuttings not less than three feet long ; dig a wide hole—it does not require to be more than nine inches deep—at the foot of a tree, put in a bushel of manure and some wood ashes, firm it down ; put eighteen inches of the cutting—after cutting the leaves off the part to be planted—in the hole, laying it down along the top of the manure, not more than two inches below what will be the surface ; cover over with two inches of earth, firm this down ; put some grass or trash over it for a mulch ; place three or four flat stones on top to keep fowls or pigs from digging it out. The other part of the vine is simply placed against the tree and tied lightly to it. It will soon send out tendrils, which will fasten on to the tree. Cuttings are to be had at Hope Gardens by addressing the Director of Public Gardens, Kingston P.O., and the letter does not need a stamp. Districts suitable for vanilla are those having good soil and a regular rainfall, and not over 2,000 feet altitude.

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EXPERIMENTS WITH COCONUTS IN PORTLAND.

It may interest you to hear what has been the result, so far, of what has been tried by myself and Mr. Cradwick. By Mr. Cradwick's advice, I trenched three feet six inches deep and two and a half feet wide about forty trees. Mr. Cradwick also sprayed many of these trees thoroughly with Bordeaux mixture. I had meantime burnt or syringed the whole of the twenty-five sick trees through the cultivation. Amongst the trees, treated by Mr. Cradwick, there was one of the visibly sick ones.

The results, as far as I can see, are these :—

(1). I cannot see the least difference between those trees trenched and those not, at present.

(2). I cannot see that the spraying has caused the trees to hold more nuts, except on one tree, and that may not be the result of the spraying, but the breaking of the drought.

(3). The curious thing is, however, that out of the twenty-five burnt, ten are on the high road to recovering completely. They had thrown out perfectly clean, fresh hearts, leaving the old, sick leaves behind. The conclusions I draw from this are, that if the trees are taken when first attacked, the burning is a cure, and a simple one.

Another thing is, that since burning those trees, only five trees more have been attacked in the one thousand three hundred, and of these four more, undoubtedly sick and missed at the time of burning, as they are badly gone.

In cutting down these far gone and practically dead trees, I have found a rather curious thing. The diseased heart-leaves become quite hard, and, if I might use the term, “ossified,” wooden in texture, and hard to cut.

I am in hopes, as I do not see any more trees, except the one showing disease, that the burning of the dead trees, and watching to syringe any that show affection later, that the trouble will be overcome.—L. A. WATERS, Elmwood, Priestman's River.

PRICKLY PEAR AS A FORAGE.

I have read with much interest the reference in your well-conducted JOURNAL, October, 1907, to the use in the West Indies of the prickly pear as a food for stock during periods of drought. I take it that, here in South Africa, the farmer suffers from drought, probably, more than in any other country, and, therefore, our experience of drought-foods may be of some interest to you.

Our greatest concern in Cape Colony is the supply of food for the thousands of ostriches. Ordinarily, they are fed on grass and bush veld, and irrigated lucerne, but when these fail, during periods of drought, attention is directed to other foods. As in Australia and elsewhere, the prickly pear (*Opuntia*) is a very serious and rapidly spreading pest, but, in periods of drought, it is, to a limited extent, chopped up and used as food for ostriches and stock. It is found, however, that a much superior drought-resisting food is the American aloe (*Agave Americana*). So desirable are the large, cut-up, succulent leaves of this plant found to be as a food, that, even under ordinary conditions, it is much used for ostriches, while, during drought, it is a most valuable reserve food.

I mention the matter to you, knowing to what a large extent the agave is grown in Jamaica, the species being indigenous to the Western Hemisphere. I do not recall its ever being used as a food in the West Indies, but, from my experience here, I venture to suggest it for your consideration. It is much planted in South Africa as a fence, and, also, as a preventive against the washing away of the superficial soil during heavy rains and floods, and hence is also available as a food plant.—J. E. DUERDEN.

BANANAS AND COCOA IN SURINAM.

A DISEASE of cocoa trees in Surinam has practically destroyed the cocoa trees there, and a once flourishing industry has gone. The planters had utter ruin in sight, but the Dutch Government came to their rescue with financial help, and recommended the banana industry as a substitute for cocoa. An agent was sent to the United States, who interested the United Fruit Company to arrange to buy the bananas. Accordingly, suckers were procured from Jamaica, the soil was found most suitable, and now (January, 1908) a Dutch Government vessel has come to take away 150,000 banana suckers to plant in Surinam, and the United Fruit Company has arranged with the Dutch mail steamers to New York to put in cool chambers, and carry the fruit to that city in ten days.

The cocoa disease is called Witch-broom, because of the shoots branching into numerous twigs just like a broom. Bordeaux mixture, sulphate of iron, and other remedies, have been tried, but without absolute effect, so far. Yet it is still hoped, by persistent efforts, that a remedy for the disease may be discovered, the remaining trees saved, and more cocoa planted again.

We are very free from disease of plants or animals, on the whole, although, we think, we have troubles enough. All the more care, therefore, should be taken not to add to them. It is a miserable state of affairs when disease of any plant or animal gets a hold, and sweeps through a land. Therefore, our Agricultural Instructors should be told of any serious troubles, in order that they may be investigated, and reported on. Many planters are always on the alert for, and, generally, are alive to, possible danger, and so tackle any troubles promptly and resolutely, but there are others, who do not read enough about their business, and are not sufficiently aware that there are dangerous troubles to economic plants, and are not aware either of possible remedies, which have been tried elsewhere, and which should be promptly tried to find if they are of any good effect.

PRODUCTS OF COCONUTS.

WE are so near northern markets here that, practically, all our coconuts are shipped as husked nuts. Coconut-producing lands, like the islands in the Pacific, Ceylon, and Southern India, ship their coconuts as copra, which is the dried flesh, and, the oil being expressed, is largely used for making soap. After the oil is expressed, the remaining dried product is called in the East poonac, but in commerce, used as a stock food, it is simply called coconut meal, and it contains the following digestive nutriments:—Protein, 15.6 per cent., Carbohydrates, 38.3, and fat, 10.5. It is thus a very valuable stock food, much richer than wheat bran, and compares well with linseed meal and cotton seed meal. From the coconut husks in Ceylon and Southern India, another important article of commerce is made, called coir.

The fibrous material of the coconut husk in its raw state, that is, unbeaten and uncombed, consists of fibres of various length associated with a quantity of corky tissue. It is necessary to clean and sort the material before shipment, as there is little or no demand for it in a crude state, and the cost of freight would exceed the value in England.

For the preparation of coir fibre, the coconuts should be gathered before they are quite ripe, usually when ten months old. The fibre becomes coarser as the nuts ripen, and then require to be soaked for a long period in order to free it from the corky tissue, with the result that the coir acquires a dark colour. In the old native system of treatment, the coconuts are soaked in pits of salt water for several months, but in the preparation of the best com-

mercial coir it is now usual to detach the husks, which is accomplished by striking the nuts on sharp spikes fixed in the ground, and to soak these in large tanks of water warmed by steam. The treatment is much shortened in this way.

After soaking the husks, which facilitates the removal of corky tissue, they are either beaten by hand or passed through a crushing machine. The fibre, after leaving the crushing machine, is passed into the extractor or breaking-down machine, in which it is completely disintegrated. The product is then treated by a "winnowing machine," to remove the dust and other non-fibrous matter.

After being cleaned, it is of great importance that the fibre should be sorted. It is usually separated, by a process of combing or hackling, into two grades of different length. The longer or "brush" fibre is employed as bristles for brush-making, whilst the shorter or "mat" fibre is used for the manufacture of mats and ropes.

The commercial value of the longer or "brush" fibre is about £16 to £17 per ton; whilst the shorter or mat fibre is worth from £5 to £10 per ton in the London market at the present time. Millions of husks of coconuts have often been thrown away here, but of late years have not been wasted so much, but used as manure to spread through the coconut walk. They have also been tried as manure for bananas, buried in holes, and have proved very good. A little copra is being made here now from the small coconuts, there being a larger proportion of these than usual, owing to the drought. In the Cayman Islands, we regret to say, most of the husks are flung into the sea, as we wrote on page 109 of the JOURNAL for 1907, instead of being utilised for manure. It seems that the richer a place is the less waste there is. In North America and Europe what used to be called waste products are now utilised, and yield fortunes. No soil is rich enough that any products from it should be wasted, but if they can not be used for sale, they should be returned to the land.

JOHN CROWS AND COCONUTS.

A CUBAN, who has about one hundred coconut trees, told me "John Crows" destroyed a lot of his nuts. He said they had eaten fully a hundred young coconuts. I told him I had never seen, nor heard of, "John Crows" eating coconuts off the trees. He was surprised, and asked me if I did not believe him. I repeated I had never seen nor heard of such a thing. He told me to look in a tree facing me, and I would see a crow in the act. On looking, to my surprise, I saw a "John crow," hard at work, eating through the husk of a nut in the jelly stage. That crow will eat no more nuts. I made a boy climb the tree; he found the husk partly pecked through!—R. J. TAYLOR-DOMVILLE, Manzanillo, August 17, 1907.

CORN.

FORTY years ago, the senior editor of this paper made the experiment of planting the kernels from one ear of corn in a straight row, beginning with the kernels at the butt of the ear for the first hills and ending with the kernels at the tip. We wanted to see if there was any difference in the germinating power of the kernels as they stood on the ear. We could find but little difference, although we thought the kernels at the middle of the ear made a little the strongest growth of the stalk. We made this experiment three years in succession. We were impressed, however, with the fact of the great difference in the strength and vigour of growth of different kernels that come from the same place on the ear. Evidently nature had endowed these kernels with differing degrees of life and vitality. It occurred to us then that this would be a good method to grow one's seed corn, thus giving a clearer idea of selection.

This idea of selecting the seed from the most vigorous growing stalks is greatly advocated to-day by all corn experts. Prof. Moore of this state has discovered that the character of the stalk has a great deal to do with the quality of the ear. He has a variety of white dent corn, wonderfully productive, that matures a good sized ear of remarkable uniformity on a rather short, thickset stalk. This, he thinks, is the ideal kind of a stalk, as the strength of the land is not taken up in the growing of a heavy stalk with less ear growth. There is a lot to be learned in this matter of corn growing. Farmers had better not think they have struck the limit just yet.—*Hoard's Dairyman*.

POULTRY NOTES.

DO THUNDERSTORMS SPOIL EGGS?—The question is sometimes asked, "Do thunderstorms spoil eggs when the latter are undergoing incubation?" In a great many cases they do not; in a few, we believe, a certain percentage of the eggs are affected. The latter, as a rule, are eggs which were not quite fresh when set, or had travelled a long distance before being set. Perfectly fresh eggs are but little affected by thunderstorms; we doubt if they are affected at all. A good many people seem to have a notion that a bad hatch is sure to result if there is thunder in the air during the period of incubation, but, we think, a little observation would modify such views considerably.

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YAWS.—The usual Cuban way of treating yaws is to grease it, and then burn it with a large red hot nail, which either kills or cures. I used to use raw carbolic acid, but a deal of care is required in using it. Seeing iodine recommended in the JOURNAL OF THE JAMAICA AGRICULTURAL SOCIETY, I thought I would give it a trial. A party had some fowls; one of the hens seemed predisposed to

yaws, as every time she had chickens, they had yaws bad. Other hens, in the same yard, raised chickens free of yaws. I told the party to fetch the chickens to me every day, and I would dress them with iodine. One of the chickens was very bad; one of its eyes was about the size of a marble. After dressing it for about a week, the owner got disgusted, wrung its neck about dusk, and threw it into a grass piece. Much to the owner's surprise, the chicken appeared at his door, shortly after dawn, very little the worse for the wrung neck. I told him that chicken was hatched to live, and I would dress it twice a day. It is now alive and quite well, but minus an eye. In fact the whole six chickens are well and cured.—R. J. TAYLOR-DOMVILLE, Cuba.

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A TRIBUTE TO THE EGG.—“We have crossed the Bosphorus and bade farewell to Asia, within whose borders we have spent about seven months. They have been wonderfully instructive months, and we have enjoyed the experiences through which we have passed, but we cannot say that we have fallen in love with Asiatic food. We have been afraid of the vegetables; we have distrusted the water, unless it was boiled, and we have sometimes been sceptical about the meat. The butter has not always looked inviting, and our fondness for cream has not been increased by the sight of the goats driven from door to door and milked in the presence of the purchaser. The bread was not a rival of the Vienna bread, and the cooking has not been up to Western standards. But the hen—long life to her. She has been our constant friend. When all else has failed, we could fall back upon the boiled egg with a sense of security, and a feeling of satisfaction. If I am not henceforth a poultry fancier in the technical sense of the term, I shall return with an increased respect for the common, every-day, barnyard fowl. There are many differences between the East and the West—differences in race characteristics, differences in costumes, differences in ideals of life, of government, and of religion, but we all meet at the breakfast table—the egg, like ‘a touch of nature makes the whole world kin.’”

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THE setting season begins in earnest in February. A hen should only be given as many eggs as she can well cover. The nest should be made in a quiet corner; eggs hatch better when the hen sits on the moist earth, because it is cool, and the moisture arising from the ground is beneficial to the eggs and hen. But there is danger from mongoose or rats, or ants, so a barrel or box is a safe place. The nest should be carefully made of soft, dry grass, not harsh straw or bush, and should be made saucer-shaped, so that the eggs may not roll. If the hen is set at night and shut up, and lifted off for twenty minutes the first two days, she will afterwards know her nest, and go back herself. Care should be taken that she comes off for twenty minutes each day for food and water. Much thoughtless cruelty is done by not remembering to feed the setting

hen when she comes off, and to give her water, so that hens are often thus starved. Some cedar leaves, or cedar chips, put in the nest, or sulphur, or insect powder, sprinkled round the nest, or, best of all, a square of camphor, put at the side of the nest, will keep off "fowl lice." When the chickens hatch, they do not require food for twenty-four, even thirty-six, hours. When the hen steps off, and begins to scrape around, is time enough to begin to give the chickens a little fine food. Nothing can beat coarse oatmeal for the first week; failing that, our own brown rice—not the white imported table rice—is next best, and, after a week, ground corn, which has been roasted or charred a little, will do. The white duck ants—not the black head kind—are splendid food, and, to push chickens on quickly, the ticks that are picked off cows form a rich nutritious food; they are practically cows' blood.

COMMENTS.

ARROWROOT.—Arrowroot imported from St. Vincent, has been used in the public institutions here, because native arrowroot could not be got regularly, even at a much higher price than it could be imported for. These institutions claimed they could import arrowroot for 3d. per lb. We took up the subject and found that, while this was so, only one of the institutions used arrowroot at that price—the Penitentiary—some of the hospitals were paying 5d. per lb. Another institution claimed to be using arrowroot, bought locally, at 3d. per lb., but on analysis this was found to be only part arrowroot, the bulk of it being cassava starch.

Now, while arrowroot can be imported from St. Vincent for a trifle over 3d. a lb., this is not the best arrowroot, but the lowest grade, and not nearly as good in quality, or for the use of invalids as our own. St. Vincent arrowroot is quoted at $2\frac{3}{4}$ d. to $3\frac{3}{4}$ d. per lb., and we can supply the best native arrowroot, and have been doing so to some institutions, at 4d. to $4\frac{1}{4}$ d. per lb.

People always want arrowroot as white as possible, yet the product of Tous-le-mois, or black arrowroot, called so locally, because it is darker than the arrowroot of commerce, is considered by the country people, who grow both, and use both, a better food for weak stomachs.

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OUR EXPORTS.—Our figures for products exported must be taken as remarkable, and show what a staying power there is in the Island, when, to 31st December, after over nine months general drought, we have nearly doubled our exports of coconuts, exceeded last year's exports for coffee, shown very little reduction for bananas, while for cocoa we shall finish up well ahead of last year.

Where all the bananas have come from is a mystery to us, as many districts, formerly large producers, had none to sell, and every Parish appeared to be short. We suppose the buyers were taking fruit of a quality they would not have taken in ordinary years, and that fruit has also come from back parts, where, if the

price had not been higher than usual, it would not have paid to take out the fruit. Then, with coffee being mostly grown in the uplands, where it is often so wet, the very dry weather has not been so detrimental over most of the coffee districts as elsewhere. There is a big crop coming in now, so that our figures for quantity will be large; price is another matter. Oranges have sold better than most years, and the increase over last year is very refreshing after all the stories of "being burned out." It is, indeed, marvellous how young fruit, apparently past redemption with drought, immediately responds to good showers, swells quickly, and becomes marketable. Rum, sugar, ginger, and pimento will not show up badly either. As a writer in the newspapers has remarked—all this only shows what remarkable crops we should have had but for the drought.

CORRESPONDENCE.

(Only letters with replies likely to be of general information are published here.)

POTATOES.—I am in receipt of your letter, No. 3778, dated 13th December, 1907. I am very disappointed and annoyed at not getting the seed potatoes I ordered and paid for in September, especially as I have been put to some expense in preparing the land for planting them. It is not much to your credit to try and shield your neglect by stating what is incorrect, for the coastal steamer called at Ocho Rios on 10th December and landed goods for me, and so, if you had only exerted yourself, the barrel could have been shipped on that steamer; but, doubtless, this *unimportant* matter was left to some person to attend to, who was just as indifferent as you were, and hence I am to suffer. It is very strange that I have been shut out while other persons in this district have had their orders supplied. I can only arrive at the conclusion that you disposed of all the potatoes, and, doubtless, took very good care of yourself.

[People are often unjust through assuming too much. For the information of others, who ask us to import potatoes, or anything, we may say that we are not supposed to do more than get the best we can for the money, and, when the things land here, despatch them to their destination, taking no responsibility as to their condition, over which we have no control. Yet, in this matter of potatoes, we brought the barrels from the steamer, opened them, sorted them out, and repacked, losing 20 per cent. in bad potatoes. Our agents informed us that, owing to a wet summer, potatoes were not carrying well, and easily rotted. After this trouble, we sent this barrel twice to different wharves, a clerk having to go with it each time to ship it, and then as rot set in quick, and resorting was necessary again, while there was no guarantee that the next steamer would take the barrel, and as other barrels shipped by coastal had arrived rotten, in spite of our resorting, we disposed of this barrel. If we had kept it until it could be shipped, the time and trouble spent would have been more than the barrel was worth, and our friend, who writes so hastily, would have been equally indignant if he had received rotten potatoes. The person in the district referred to, agreed to take Early Rose potatoes from Canada, while this correspondent insisted on

Scottish Triumph potatoes from the United Kingdom. The former were shipped in October, the latter, referred to, in November.

As for taking care of ourselves, our order for three barrels was first booked, but, owing to the loss of so many barrels through rot, we stood aside, and have none growing much to our disappointment. The letters from the shipping companies speak for themselves.—Ed.]

* *

21st December, 1907.

Dear Sir,—In reference to your enquiry re one barrel of potatoes not being shipped by S.S. "Arno," we beg to say that, owing to the large quantity of cargo that the vessel had to take, we regret that your barrel of potatoes could not be forwarded on the 25th November on that account, and had to refuse taking the same.—E. G. ORRETT, for Royal Mail Steam Packet Company.

* *

Imperial Direct West India Mail Service Company, Ltd.,

Kingston, Jamaica, 21st December, 1907.

Dear Sir,—The "Delta" does not call at Ocho Rios; that's the reason why the barrel of potatoes was returned on the 19th November.—H. A. DUVAL, Assistant Wharfinger.

* *

DRY WEATHER FODDERS.—In the issue of the JOURNAL for May, June and July, page 100, under the heading "Dry Weather Fodders," you speak very highly of a grass called Paspalum Dilatatum.

Some time ago I imported some seed into this country, and planted a small plot as an experiment. The results were all I could wish for: most luxuriant growth, and it proved to be very much relished by all kinds of stock. I have great interest in getting more seed, but I find that for planting more extensively the prices asked for in the United States are too high. Could you tell me, through the JOURNAL or by letter, of any place where I could buy it at a reasonable price? If you will kindly furnish me with the information asked for, I shall be extremely obliged.—MARIANO R. MONTEALEGRE, San Jose, Costa Rica.

[Paspalum Dilatatum and Rhode's Grass are two grasses found of the greatest value in the colonies of New South Wales and Queensland, Australia, over all other fodders as drought-resisting crops. The former, when tried here, kept green long after Para Grass, Guinea Grass, and Pimento Grass had withered during the drought. Some further trials are being given to both grasses here. We found it cheaper to get our Paspalum seed from Anderson & Co., Seedsmen, Sydney, Australia, than from New York. Although a native of the southern United States, this grass, curiously, is not made much use of there.—Ed.]

* *

Ontario Department of Agriculture,

Toronto, Canada, 13th December, 1907.

Very many thanks for your letter of 3rd, No. 3643, and for the valuable information it contains.

The Company in Cuba, with which I am interested, found out, after planting thousands of trees, that they were planting too deeply, and I fear the mistakes made in Jamaica have been repeated in Cuba. I was not aware of the facts you give as to experience in Jamaica.

Some of my trees were planted in mounds, but with others, no particular attention was paid to this point.

I have had my grove mulched with the weeds and grass growing therein. Next spring my idea is to have it thoroughly ploughed, and seeded down to cow peas. These will help choke out the weeds, and will serve as a mulch at the end of the season.

Then, the following spring the grove might be sown to grass, and some suitable material used for mulching purposes.

I may say that several individual growers have intimated their intention of trying the mulch-grass system, as a result of my drawing their attention to the articles in your valued JOURNAL.

* *

Nairobi, British East Africa, December, 1907.

I have the pleasure to send you by separate post copy of my book on "Pig Breeding and Feeding in East Africa," and I should be glad if you would give me a notice in your columns.

I should like to point out that swine husbandry is likely to prove of immense advantage to the agriculture of East Africa, as the pig enjoys a certain immunity from climatic diseases, and I look with great hope to the development of bacon-curing as one of the principal industries in the country.

It is with a view to fostering this industry that I am taking up my residence here, and the book which I am sending you is an attempt to put all those who are interested in this matter in possession of a few practical hints in connection with this business.

May I ask you to kindly send me a copy of your JOURNAL with the notice marked, so that I may have an opportunity of quoting same, and you will oblige.—J. E. Prosser.

[This is an excellent publication, containing information on pig-breeding, which will be most useful to all pig-breeders here, and in tropical countries generally also.—Ed.]

* *

Dear Sir,—It might interest you to hear that Nicaragua exported in 1905:

From Bluefield	1,743,600 bunches of bananas	} U. S.
	2,382,000 cocoanuts	
	and 237 tons of l. rubber	} 356 tons to U. S.*
" Corinto	122 " "	
" "	9,143 " " coffee, mostly to Europe	} England
" "	251 " " cotton only	
" "	63 " " seed	
" "	218 " " corn to Pacific ports	}
" only	2 " " cacao	

Atlantic side people, about 50,000	produce \$24.40 per head	} proportion to total exports
Our interior interested in coffee, 50,000		
produce	\$30.00 " "	
and the balance of 500,000 produce	1.50 " "	

but they say and think themselves to be big fighters! The drones reduce the nice proportion of workers to a small average of \$6.54 per head total exports, summing barely \$4,000,000 for 600,000 people.—H. E. Low, Managua, Nicaragua.

* *

Weston Favell, Falmouth P. O.

SCALE INSECTS ON ORANGES.—With a view to making your publication more accurate, and, therefore, more useful, will you permit me to in-

* Nearly all forest rubber.

vite your attention to a few facts, in connection with your several articles on this subject, in the October and November JOURNALS.

Writing from memory, and without time to ascertain the exact date, I am safe in saying it is now seven or eight years since Mr. R. P. Rerrie, and (I think) Mr. R. W. Ewen observed the black ant to be an enemy of the scale insects, which then infested oranges in this colony. A magnifying glass revealed the fact that these ants feed on the scale insects.

This observation was communicated to the Government with the object that the same should be verified by the scientific bodies of the colony, and the information distributed for general benefit, if considered of sufficient importance.

I now observe you—good old Rip Van Winkle—are crediting Mr. Cory with a degree of originality he does not possess. This latter gentleman, no doubt, will inform you how his attention became directed to these wild trees, with nests of black ants on them, which never had scale, and how, by a remarkable coincidence, he has adopted the plan long previously in use in the western parishes of putting black ants' nests on the trees.

I must join issue with your statement "that these ants cannot clear a badly infested tree," experience is directly to the contrary. In a certain October, a small citrus cultivation of my acquaintance was so badly infested with scale as to be on its last gasp. Black ants' nests were taken off near by logwood trees, and put on to each tree. By the January following all the plants were in fine condition, and, with very few exceptions, free of scale. The exceptions were nearly free; only the lower limbs—for the ants seem to work from above downwards—being partially affected by scale. It did not take long for those to be partially cleared.

I do not wish to minimise the scale evil, for I know it is very bad in parts of St. Ann and St. James, but I know of nowhere in Trelawny, where it is so bad as to call for your remark that it is the exception to see citrus free from scale.

I do not blame you for not knowing things that happen while you sleep, but I most strongly object to your using the JOURNAL, or your office, as a means of distributing information prejudicial to the best interests of the colony, as you did, page 246, and I trust you will forgive me for my indignation.

Your action in advising how to kill black ants is on a par with those Fruit Journals in America, which advise the spraying of fruit trees in bloom with poisons, or with your previous issues of some years ago, which advised the St. Ann penkeepers to kill the same black ants by tarring the nests.

The American fruit-grower reaped his reward for killing off millions of his own and his neighbours fruit trees in smaller fruit crops. Your St. Ann penkeeper incurred some futile expense, and is, perhaps, now reaping the reward in scale insects.

All the evidence we have is in favour of these ants, and I challenge the production of any well authenticated evidence of their being prejudicial to the agriculturist.

Being a beneficial insect as you admit, I think it your duty to do all you can to protect it, and the fact that you were asked for it, is no excuse for you to distribute information prejudicial to the best interests of the colony. Rather, I think, you should have used the opportunity to educate. Yours obediently, (Sgd.) GUY S. EWEN.

[This is a type of letter which we regret to receive, and publish with greater regret. It savours too much of spleen somewhere. There is nothing about it that can do any good to any one. It is neither instructive nor edifying, and, moreover, it is highly illogical. It was Mr. R. P. Rerrie who called the attention of the Board of Management to the ravages the white scale had done this year on his properties in St. Ann, and on the

Northside generally, and asked that steps be taken to check it. Yet Mr. Ewen asserts that Mr. Rerrie knew that black ants were enemies of the white scale seven or eight years ago. We take it, therefore, that Mr. Ewen knew of it also. Then it is strange his anxiety to eradicate it—to assist suffering growers of citrus fruits—should have remained dormant all these years, and should, also, not have been manifested, when in big letters in the public prints, the discussion of Mr. Rerrie's letter on white scale by the Board of Mangement was published. And we assert that, in Mr. Ewen's own parish of Trelawny, white scale was rampant, and has damaged, if not destroyed entirely, hundreds of lime trees. Mr. Arnett and ourselves observed trees covered with it. What Mr. Ewen's indignation is about we do not know. It is our duty to report on any special agricultural efforts being made, or special practices carried on, whether they may be, in our own opinion, correct or not. Mr. Cory's efforts on the citrus trees under his charge were strikingly energetic, enterprising, persistent, and intelligent. Whether his practices were all original is immaterial, and no claim for any originality was made. As a matter of fact, eight years ago, we were told by Mr. H. G. Burnett, a Florida orange man, that the particular black ants, now under discussion (there are other kinds of black ants), were not enemies of the orange tree, as was generally supposed, and a statement was made in the AGRICULTURAL JOURNAL to this effect, and since then we have never disturbed, nor recommended to be disturbed, this kind of black ants—which have an unpublishable local designation—on orange trees.

As for spraying fruit trees in blossom, the JOURNAL, and most Fruit Journals in the United States, particularly make the reservation that fruit trees should not be sprayed while in blossom, in case the poison used may kill bees. Spraying or dusting cotton in blossom with Paris-green, must, unfortunately, be done, if attacked by caterpillars. We fail entirely to see what Mr. Ewen's objection is about. The particular query he refers to was, unfortunately for his objection, "how to destroy duck ants?" We do not know if he considers duck ants should be preserved as beneficial to orange trees! We have killed the nests of black ants (another kind of black ant, called "stinking ant," with gas tar, poured on, or hot tar-water sprayed on, for ten years, and find it a good practice. At present, our knowledge only goes so far as to find this "stinking ant" an unmitigated pest, like "stinging ants" and red ants.—ED.]

BRANCH NOTES.

At the half-yearly general meeting, held on Thursday, the 12th December, the subject of prædial larceny was discussed. The subject was brought up by Mr. A. C. L. Martin, Great Valley, Manchester, and the President replied that he did not think public opinion was very strong in the matter of having special legislation made for this form of stealing. We were asked, therefore, to get the opinions of the various local Agricultural Societies throughout the Island, of which there are over fifty in active work, and as they are mostly composed of small settlers, owning land and cultivating it, their opinions should well represent the public opinion of those who are most concerned. In addition to this, the various parishes at large are taking up the matter, and holding public meetings. Considerations of space prevent us from publishing all the reports in full, but they are exceedingly interesting; the discussions have been carried on at some length, and the subject fully ventilated. Some of the recommendations of Branches are a little startling, but they are useful and impressive, for they show how greatly these small cultivators are disturbed in spirit over the evil, and to what lengths they, themselves, are prepared to go that it may be checked. It is now plain that drastic measures are required to be put in force.

Spanish Town.—Public meeting, Spanish Town. A large and influential meeting was held at Spanish Town on Thursday, 16th January. The Hon. G. McGrath, Custos of St. Catherine, in the chair. The following resolution was passed: "That, in view of the alarming increase of prædial larceny and other offences throughout the island, this meeting was of opinion that stringent measures for the detection and punishment of the offences were imperative for the interests of the community. That this meeting, being convinced that united action on the part of those interested is, above all things, necessary, is of opinion that a deputation should wait on His Excellency the Governor to urge on him the desirability of calling a conference of representative men from the different parishes in the island to discuss and devise effectual means for dealing with the evil. That the following form the deputation:—Hon. Geo. McGrath (chairman), Hon. H. Cork, Hon. A. W. Farquharson, Messrs. T. H. Sharp, E. B. Hopkins, Wm. Watson, D. Campbell, J. McPhail, Constantine, H. B. Walcott, V. Verley, W. R. Turner, J. H. Hemans, and I. Cookman.

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Port Royal Mountains.—At the general meeting of this Branch, held at Mount Fletcher on Saturday, the 18th instant, the subject of prædial larceny was discussed. The meeting unanimously agreed to adopt the resolution of the meeting held at Spanish Town.

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Cambridge.—A special meeting was held on the 22nd January, and the following conclusions arrived at:—(1) Within the last nine or ten months prædial larceny had increased, and nearly every person present could mention instances where either his or his neighbour's plantation ground had been repeatedly plundered. (2) The law should provide for dealing with such thieves more expeditiously; that owners should be recompensed for the goods stolen; that prosecutors should be paid for the time they attend court. (3) That persons having in possession articles suspected of being stolen should be made to give proof of lawful possession, failing which they should be held guilty. (4) That juvenile offenders should not be sent to prison, but should be put at the Police Station, and should be delivered to their parents or guardians, who should be responsible for their future conduct. That adult offenders should be sent to prison; prison terms should be made more severe; where practical, offenders should work in public places, and corporal punishment should be administered where the crime is committed.

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Ocho Rios.—Meeting held on Monday, the 20th January. Unanimous opinion of all present, members and non-members, that prædial larceny is much greater than in previous years, not only as regards the amount stolen, but the increased cunning and audacity shown. (2) All were strongly of opinion that the onus should be laid on the accused of proving lawful possession of products suspected to be stolen. (3) They strongly advocated public exposure in the stocks, followed by a term of work on the roads, and that the thief be made to pay the equivalent of the loss.

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Stewart Town.—Public meeting held on the 23rd January. The resolution, passed at Spanish Town, was adopted. It was the general opinion that prædial larceny had increased.

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Rio Minho.—Meeting held at Park Hall on the 16th January at 6.30. Meeting did not favour flogging, but advocated simplification of the laws; that persons convicted of prædial larceny should be made to work publicly on the roads in their own neighbourhood wearing prison clothes, with long terms of imprisonment for incorrigibles.

Albany.—Special meeting, held on Thursday, the 23rd January. The unanimous opinion was that the only cure for habitual criminals is confinement for life at prison settlement, where they should be made to earn their keep. That a thief's goods and crops should be confiscated to an extent at the discretion of the Resident Magistrate.

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Buff Bay.—Special meeting held on the 25th January. Meeting unanimous that prædial larceny had assumed larger proportions than ever in that district. (2) Law should be amended, that thieves caught in the act, yet not having actually carried away the stuff, should be convicted. (3) That a commission should be appointed to consider the cause and effects of prædial larceny, and as to the punishment, and that a representative of the Society be a member of the commission.

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Port Maria.—Meeting held on the 24th January. Conclusions:—(1) Short terms of imprisonment should be imposed on a prædial thief. (2) He should be made to work on the public roads. (3) That more district constables, and of a better class, should be employed. (4) That flogging should be administered in public to the offender in the same district in which the offence is committed. This meeting was very lively and strong opinions were expressed.

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Thompson Town, Clarendon.—Meeting held on the 20th January. Over one hundred persons present. (1) The opinion was strongly in favour of flogging. (2) That the constables should do all the preliminary work of getting the thief to court till the day of trial, when the complainant should attend. (3) That the thief should be made to work in the prison clothes publicly in the district in which the crime was committed. (4) The meeting favoured the raising of the age limit for children at school at any cost to the country.

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Darliston.—Meeting held on the 17th January. Conclusions: (1) Laws should be simplified so that less time, trouble, and expense would be involved in prosecuting. (2) Any individual found in possession of products, without being able to give a satisfactory account of how he became possessed of them, should be made to account for them, as is now the law as to the possession of rum. (3) Imprisonment of seven days at prison station, with hard labour, is useless and expensive; that hard labour and flogging should be done in public in the district in which the offence is committed. An additional resolution was passed calling attention to the fact the pay given for labour is altogether inadequate for his sustenance and those dependent upon him, and that a small proprietor was heavily handicapped for want of good markets. They called upon the Government to do something to better the condition of the peasants in general.

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Retreat.—Meeting held on the 23rd January. It was resolved (1) That the police should be empowered to query any doubtful person or persons having in their possession agricultural produce of any kind, and should the party or parties be unable to give satisfactory explanations as to where such products had been obtained, they should be arrested forthwith for larceny. The prædial larceny law should be amended to this effect. (2) That prædial larceny is much on the increase in St. Mary, and that the time has arrived when the law relating to prædial larceny should be amended, and made far more stringent than at present, and recommended punishment of such criminals by public exposure in the stocks.

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Mocho and Brixton Hill.—Meeting held at Mocho on Thursday, the 31st January. Feeling of the meeting was that harsher methods should

be adopted for this growing evil, and that the processes of the law should be simplified.

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Aeolus Valley.—Meeting held on the 23rd January. The following resolutions were adopted :—(1) That the district constables throughout the island be authorised to visit every family in his district ; to find out how each individual man lives : where he is employed ; if he has a field ; if it can support him and family. If he fails to satisfy the query of the constable he should be brought before the J. P. to tell how he lives. (2) If a thief be caught in a field stealing, no bail should be given him, but, as soon as possible, be punished, if guilty. (3) If flogging is to be done as increased punishment, it should be done in the open market in the district to which the thief belongs, and this will put down a great deal of prædial larceny. (4) Thieves, when arrested, might be given a free passage to Colon. (5) Prædial larceny is less in the district than heretofore, owing to the many gone away to Port Limon.

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Albert Town, Trelawny.—Meeting held on the 30th January. Opinion of the meeting was divided ; some advocated corporal punishment, and some were not in favour of flogging. All were in favour of simplification of the laws ; that thieves convicted should work out the value of the theft, which should be refunded to the person stolen from, and that prisoners discharged from prison should not be let loose in the community, but kept in penal settlements.

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Christiana.—I have to forward to you the replies to the questions which you sent me on the subject of prædial larceny. These replies were adopted at a public meeting held in Christiana yesterday. When I tell you that the meeting was a crowded one, some two hundred men being present, you will understand that the subject is one that has touched the people very deeply, and on which they are feeling very keenly. In my experience of meetings at Christiana, I have not known such a large attendance, or so much interest taken in any subject, and many were the speakers and the proposals made, but we kept as nearly as possible to the points which had been suggested to us. There is practical unanimity on all, but as to the punishment. Our third resolution covers two important points : what should be done with those who are evidently habitual prædial thieves, and how to try and prevent so many of our unfortunate children growing up as thieves.—REV. WM. J. TURNER, Secretary.

RESOLUTIONS ADOPTED AT CHRISTIANA ON THE SUBJECT OF PRÆDIAL LARCENY.

1. That the replies to the questions suggested by the Agricultural Society be as follows :—(a) Prædial larceny is decidedly on the increase, and has become not only a very serious hindrance to the cultivator leading to the loss of his labour, but is also a menace to the peace of the community. Unless drastic measures are adopted, it is feared the people will be forced to take the law into their own hands, only the well-known, law-abiding character of our people has hitherto prevented this being done. (b) The machinery of the law must be amended. The onus of proof of legitimate possession of provisions should be put on any person, who is suspected by anyone, and the process of bringing such a person to punishment should be made as expeditious and inexpensive as possible. (c) This meeting is convinced that public punishment, in some way, must be resorted to, after which the person should be made to labour on the public road, or in some other way, till the value of the things stolen, and the cost of the case, and of his keep, be fully repaid.

The first two parts of this resolution were carried unanimously ; the third part almost unanimously, only six voting against it. On its being declared carried, the following asked that their protest against it be re-

corded:—Rev. G. McNeill, Messrs. Palache, G. Webb, Fleming, Wright, Easy, and Steele.

2. That the Government be urged to introduce some legislation that will simplify the legal process in cases of prædial larceny, and cause the onus of proof of legitimate possession to be laid on any suspected person. It is believed that Law 29 of 1897 might meet the case if the Royal assent be given to it.

3. That, in the opinion of this meeting, those who become confirmed prædial thieves (after a third or fourth conviction) should be confined in Government farms. Also that the Government should take care of unfortunate children (who have no proper guardians) found guilty of stealing.

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Lititz and Nain.—At a special meeting of the Lititz and Nain Branch Society, held at Watson's Hill on the 17th January, to consider the questions of prædial larceny, as requested in your letter of the 7th, it was the general opinion of the members (1) that prædial larceny is positively on the increase when compared with other years, and that it has assumed such proportions that it is a fruitful source of discouragement. The recent drought is thought to have contributed greatly to the cause. (2) When found guilty the prædial thief should be flogged publicly in his own district, and dismissed for the first offence. For each offence thereafter, he should be flogged and sent to prison. A very lively and interesting meeting this proved to be, each member expressing, as freely as he could, what he thought best. The following members then enrolled, and are entitled to have JOURNALS sent them:—Messrs. R. S. Parsons and Ambrose Ford, both of Watson's Hill.—P. HUTCHINSON, Secretary.

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Ocho Rios.—The annual general meeting of the Ocho Rios Agricultural Society was held at the Court House, Ocho Rios, on Monday evening, the 20th January. The attendance of members was all that could be expected, and a lively interest was taken in the business that was brought forward. The usual routine of reading and confirming minutes, receiving reports, etc., being got through, the election of officers for the present year was proceeded with, and resulted as follows:—President, Rev. Geo. Nutt; Vice-Presidents, Messrs. A. B. Geddes, A. E. Mesquita, and W. L. Cohen; Hon. Secretary and Treasurer, Mr. L. C. B. Yeoman; Committee, Messrs. F. A. Cory, E. S. Taylor, I. R. Corbet, W. H. Harrison, H. Pink, T. Watson, W. J. Scott, and Alfred Williams. This closed the business on the agenda. The Secretary now invited members and friends to discuss the question of prædial larceny.—L. C. B. YEOMAN, Secretary.

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Christiana.—ANNUAL REPORT.—Arrangements were well advanced for a show, to be held in Christiana, in March, 1907, when the terrible earthquake, which caused such sadness and desolation in our fair land, came suddenly on us, and it was decided to postpone the show. Some months later, it was decided to join with the Kendal authorities in a show, which it was proposed to hold there in January, when it was expected that the Agricultural Conference would be held in Mandeville. When it was found that the Conference was to be held in Barbados and not Jamaica, it was decided not to go on with the Kendal show. The Managing Committee, however, thought that the Christiana Branch should hold a show of its own, and this was decided on at a meeting, held on the 3rd January, 1908. The Committee are pleased to be able to report that His Excellency the Governor has consented to come and open the show, which has been fixed to be held on the 21st April, 1908. The members of the Branch are requested to do all in their power to make this, our first show, and the first official visit of His Excellency to the district, a success. The members can specially aid the show in three ways: (1) by contributing to the prize fund, (2) by becoming exhibitors at the show, (3) by interesting

others in the show. Six meetings have been held during the year, the attendance at which has been rather better than during the previous year. The pure-bred Poland-China boar, purchased by the Branch in the end of 1906, has been in use during the year, but the Committee regret that his services have been taken advantage of to such a limited extent by the members and others. He has now been removed to the care of Mr. Bate-man, at Christiana, and as the fees have been considerably reduced, it is hoped that more use will be made of him. The Committee would remind the members that, unless this is done, they will have to dispose of him, and it is felt that this would be a backward step, and they hope it will not have to be taken. An address of welcome to His Excellency, on his assuming the reins of government in Jamaica, was sent on, and His Excellency was pleased to send a suitable reply. Seeds of the Sumatra tobacco were distributed to the members, as also some plants of new varieties of sugar cane, and of the jippi-jappa. Later interesting reports were received of the growth, both of the tobacco and canes. It is yet too early to tell whether the jippi-jappa will prove well adapted to our soil and circumstances. The Instructor for the district, J. T. Palache, Esq., has been indefatigable in his efforts during the year, and profitable lectures have been delivered on the prize holdings scheme, chocolate, etc., etc. The evil done by the prædial thief being very much felt, and the industrious in the district suffering much injury in consequence, it has been decided to hold a public meeting with the hope of inducing the Government to adopt some more effective measures of dealing with this evil than those now in operation. The subject of improved and increased postal facilities for the district has been dealt with, and correspondence with the Postmaster is now being carried on. The Committee would again urge the great importance of every planter in the districts served by the Branch joining it, and taking an active part in the work of the Society, so as to secure the benefits which are felt to result from membership.

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Santa Cruz Mountains.—A meeting of this Branch was held on the 17th January, 1908. There were forty-eight persons present. Minutes of last meeting were read and confirmed. Mr. Reginald Lawrence was elected a member. A letter was read from Mr. E. I. Smith, informing us that a Branch Society was organized at Southfield, with himself as Secretary, and asked for affiliation with the Santa Cruz Mountains Branch. Twenty names, with subscriptions, were received from Mr. Smith, and the Society was affiliated. These asked specially for the JOURNALS. The question of prædial larceny was thoroughly discussed, and by motion of Mr. W. Farquharson, seconded by Mr. C. Nation, a committee was appointed to draw up a special report on the subject, and send to the Secretary of the parent Society in due time. Exhaustive explanation was given, in connection with the Loan Banks, but the scheme did not meet with general enthusiasm, as only ten persons enrolled their names as shareholders. The matter was left in the hands of the Treasurer for further explanation, and encouragement as to the value of the Loan Bank. The President brought forward the idea of our having an agricultural show in connection with this Branch on the 1st August coming. This was well received by the members, and a committee was at once appointed to draw up rules for its working. The Society is, therefore, making an application to the Managing Board, through the Secretary of the parent Society, to be registered for a grant.

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Darliston.—The monthly meeting of the Darliston Branch of the Jamaica Agricultural Society was held at the Enfield schoolroom, on Friday, the 17th January. There were present: John W. Mennell, President, Captain Coward, Vice-President, and a large attendance of members, etc., amongst whom was R. A. Anderson, Esq., M.P.B. The minutes of the last meeting were read and confirmed. The President read a letter, referring

to the resolution in last minutes, asking him to communicate with the Government, with a view to divert the road over Beaufort Hill. The meeting approved of the letter. Read communication from Rev. G. Purdy about straw for manufacturing jippi-jappa hats. An application was made by the instructress for an advance of salary, which was approved of by the meeting and paid. The President then announced that the meeting would now be a public meeting, not confined to the members of the Branch to consider Mr. Barclay's letter on the subject of prædial larceny. The Secretary then read the letter, and, after an exhaustive discussion in which many persons present took part, a report was adopted. Conclusions given above.—J. H. HEDLEY.

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Rio Minho.—A large and interesting meeting, in connection with the Rio Minho Branch, was held in the Park Hall schoolroom, on Thursday, January 16, at 6.30 p.m., Mr. J. Hirst presiding in the absence of the President. Among those present were Messrs. S. May, Ed. Robinson, Robt. Morgan, P. A. Brown, James Chambers, Robt. Johnson, Theo. Hayles, Mrs. A. C. McKay, Estella Chambers, Misses Angelina Brown, and Estella Hayles. Twelve bags of specially selected canes from the Hope Experiment Station were distributed to the members. These canes are to be grown separately, so as to enable a fairly correct test to be taken as to whether they would prove more valuable than the varieties which are now grown. The Secretary gave a resume of the work of the Show Committee. His Excellency Sir Sydney Olivier is one of the patrons, and has given special prizes to be competed for in agricultural products, and he is expected to open the show. We have also Hon. H. Townshend Ronaldson, Robert Craig, Esq., Thos. Abrahams, Esq., men all tried and true, and having large interests in Clarendon. Mr. Hirst showed that we were to endeavour to live up to our reputation, and do the best we can, a "best" that we would be proud of. It was decided to purchase jippi-jappa plants, to be planted in the district. In the meantime steps will be taken to see what can be done to form a class, so that our girls may be able to have something remunerative to do. Mr. Hirst reported that the rooster ordered had not yet arrived. A resolution, asking the Parochial Board of Clarendon to give a grant for the working of a trunk road through Cupids, was moved by Mr. U. Theo. McKay, seconded by Mr. Ed. Robinson, and unanimously carried. The letter from the parent Society, *re* prædial larceny, was next considered. The conclusions of the meeting are given above.—U. THEO. MCKAY, Secretary.

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Port Royal Mountains.—The general meeting of the Port Royal Mountains Agricultural Society was held at Mount Fletcher on Saturday, the 18th January. There were present: Rev. C. G. Hardwick (President), Mr. W. G. Thomson (Vice-President), Messrs. W. F. Jones, J. A. Whitworth, Thomas Davis, James Jacobs, Charles Davis, Robt. Robinson, Wm. Dixon, Jacob Hall, J. S. McDermot, W. Patterson, R. S. Tait, Robt. Simons, Jas. Willacey, and C. L. A. Rennalls (Secretary). *Re* the model gardens, the Secretary intimated that he had not yet got a reply from the clerk of the Parochial Board about the grant, and, therefore, nothing definite could be decided on that point. The committee *re* prize holdings scheme, reported that "we have just got intelligence from the parent Society that a prize holding competition for St. Andrew is arranged for during the current year; that being so, the Society need not arrange for a local competition for this year, but encourage the members to compete in the parochial competition. *Re* supplying of vegetables, it was decided that a company be formed from members and others interested to be called "the Green Grocers' Company," and that the necessary steps be taken to establish same as soon as practicable. It was decided that the show be held on Wednesday, the 1st July. The prize list was arranged and rules and regulations drawn up. The show will be open to the whole

island, except in a few specified classes, in which the competition will be limited to members of the Society. The Secretary was requested to represent to His Excellency the Governor the anticipations of this Society that the driving road be completed, as far as the show grounds, against the date of the show. The following new members were elected :—Messrs. William Crisp, Gordon Town ; Philip Graham, Mavis Bank ; and H. Wilacey, Mavis Bank.—C. L. A. RENNALLS, Secretary.

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Santa Cruz.—The second annual meeting of the Santa Cruz Agricultural Society was held on the 16th January, 1908. There were present : Messrs. E. V. Sautler (Vice-President) in the chair, J. T. Palache (Traveling Instructor), B. A. Birthwright, W. S. Jones, F. A. Williams, S. Burton, E. Thompson, H. Nembhard, P. Mahon, C. F. White, J. F. McKenley, G. A. Barrett, D. Edwards, W. Hutchinson, A. Lodge, a few visitors, and the Secretary. The Vice-President, in opening the meeting, remarked briefly on the work of the past year, wished for a prosperous new year, and urged the members to take greater interest in matters agricultural this year that the Society may be placed on a better level. The minutes were next read and confirmed, after which the annual report was presented, read, and accepted. The meeting expressed its appreciation of the report, and thanked the Secretary for the work done. In returning thanks to the meeting for its warm appreciation of his services, the Secretary hoped that the Society may never have reason to be dissatisfied with his future work in connection with it, and wished the members to be alive to their duty that the work of co-operation may be carried to good effect. This was strengthened by the Instructor's usual words of cheerful encouragement. He wishes to see each member make it a duty to get visitors to come to the meetings with a view to their becoming members. The pradial larceny question was brought up at this meeting, but deferred to be dealt with at a special meeting, to be held in February. The election of officers resulted the same as the previous year, viz : President, Rev. S. I. Marson ; Vice-Presidents, Messrs. C. R. Gregory, and E. V. Sautler ; Treasurer, Mr. B. A. Birthwright ; Secretary, Mr. S. Aug. Blythe, Assistant Secretary, Mr. W. S. Jones ; Managing Committee, the office-bearers, and Messrs. C. P. Jackson, F. A. Williams, T. W. Darien, C. F. White, D. S. Coke, and A. Lodge. An important feature of this meeting has been the announcement of Mr. F. A. Williams' generous offer of his proof ass to small settlers, who are members of the Agricultural Societies in the parish at 8s. per mare. The ass stands over 14 hands, something lovely to look at, very promising, and is considered by Mr. J. T. Palache to be among the best in the island. He took first prize at the Appleton Show, held New Year Day. One who knows the worth of such an animal says that he should not be offered for less than one guinea per mare. We have to thank Mr. Williams for his generosity, and take the best opportunity of it. He stands for service at Goshen. In his address which followed, Mr. Palache wished the Society a happy and prosperous new year, and advised the members to take up the matter of agriculture and Agricultural Societies more seriously this year. He impressed upon them the necessity of attending to these things, and endeavouring to lessen the importation of foodstuffs. He would have them come to agricultural meetings, hear and discuss salient points, take nothing for granted, and encourage others to take lively interest in matters agricultural. Increase the membership, and one's income will be increased, the home will improve, and the result—a progressive people. The usual vote of thanks to the lecturer was accorded, and the meeting adjourned for the third Thursday in March.—S. AUG. BLYTHE, Secretary.

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Santa Cruz.—ANNUAL REPORT.—I beg to submit the annual report of the Santa Cruz Agricultural Society for the year ending 31st December, 1907. During the year five regular and three special meetings were held ;

the January meeting having fallen through for want of a quorum, although strenuous efforts were made. The special meetings dealt with matters relating to the show, and with communications from the Secretary of the Jamaica Agricultural Society respecting the growing of cotton and the supplying of seeds to the distressed people of this parish. Of the five regular meetings, Mr. J. T. Palache, Travelling Instructor, attended three and gave instructions on various matters agricultural, including the prize holdings scheme. Owing to the severe drought, from which that portion of the parish, covered by this district, suffered between January and August, it was found necessary to postpone indefinitely the show, which should have been held on the 11th November, 1907. The Committee feared that the drought had so interrupted cultivation in the surrounding districts that it was impossible to have anything like even a fair display of agricultural products. Many members, however, with the Secretary took keen interest in the Appleton show, held on New Year Day. Although a few were sadly disappointed in their exhibits not taking prizes, still the Branch has reason to be proud of the exhibits presented. Of the twenty-two prizes gained by the members of this Branch, ten were of the first-class, and nine of the second. At the request of the members 7s. 4d. were spent in purchasing 10 lbs. of carbon bisulphide, with a drum, for the destruction of ants and the protection of seeds from the attacks of weevils, etc. It is with regret that I have to report that less interest is apparently shown this year than in the previous year. Of the sixty-three members on the books, only thirty-two have qualified themselves. The financial position of the Society is as follows:—Income, £9 13s. 3d.; expenditure, £1 3s. 11d.; balance, £8 9s. 4d.—S. AUG. BLYTHE, Secretary.

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Mocho and Brixton Hill.—A meeting of this Branch was held in the Belmont shop, Mocho, on Thursday, the 23rd January. There were present, at the beginning of the meeting, Rev. C. H. Baker (President), Mr. J. Hirst (Agricultural Instructor), Messrs. Alex. Lloyd, H. A. Barnes, Wm. Small, Geo. T. Miles, Joseph Brown, Robt. Adams, J. A. Rhoden (members), Messrs. Green, D. Binns, Moses Allison, Alex. Allison (visitors), and Matthias Dale, Edward Black, Thos. Anderson, and Matthew Brown (members) came in during the meeting. All the visitors were duly elected members of the Branch. The President, Rev. C. H. Baker, asked Mr. Hirst to address the meeting. Mr. Hirst said he was very sorry to see so small an attendance. The members were sleeping. Regularly, since September last, meetings were called, but all attempts proved abortive. He was anxious to have a good working Society in the district, but it would be far better to dissolve the Society than to drag on as we have been doing. To get the feeling of the members as to whether we should continue or shut down, he moved that the Branch be dissolved. This was not supported. All present felt that we should now make desperate efforts to create interest in agricultural matters, and get members and others to band together and work for the betterment of the agricultural interests of the district, and of the island generally. Mr. Hirst then withdrew his resolution, and the meeting proceeded to elect its officers for the year. The following officers were unanimously elected:—Mr. A. A. Green, President; Rev. C. H. Baker, Messrs. T. T. Williams, and E. N. Clark, Vice-Presidents; Mr. D. Binns, Treasurer; Mr. J. A. Rhoden, Secretary; Messrs. Robt. Adams, Alex. Lloyd, H. A. Barnes, Joseph Brown, John Smith, Bernard Francis, Geo. T. Miles, Geo. Marshallack, and Thos. Anderson, members of the Managing Committee. Mr. Green thanked the members for the confidence they had in him in electing him their chairman. He said there are great prospects before us, but we are far from being prosperous. We must get on to better lines. The careless and old-fashioned methods of cultivation which exist have to give place to careful and improved methods. He is confident that the Branch can do much to change this state of things, if only they would go to business in the right

way. Mr. Baker and Mr. Hirst spoke on the coming Prize Holdings Competition, and urged the members to get at once to work. Mr. Hirst pointed out several matters that need careful attention on the part of those who intend to enter the competition. After dealing with a few minor matters, the meeting adjourned to the 20th February.

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St. Peter's.—The St. Peter's Branch held its general monthly meeting in the Petersfield schoolroom on the 25th January, 1908, the Rev. J. I. Kirschmann in the chair. There was a small attendance of members. The President declared the meeting open, and called upon the Secretary to read the minutes of the last meeting. The Secretary responded and the minutes were confirmed. Here follows the business for the afternoon:—Balance sheet was handed over to new Treasurer with a balance of 8s. 1d. Secretary tendered a statement of his expenses since last meeting which were paid. Affiliation fee 1907-08 was handed to Secretary to be forwarded to the Secretary of the parent Society. *Re* change of meeting from monthly to quarterly, the President called upon the Secretary, who made the motion to state his reason for so doing. In answer, the Secretary stated that quality was preferred to quantity, and so it must be clearly understood that it is not the more meetings that are held that foster interest, but it depended largely on the kind of meetings, so instead of having a poor meeting every month, it is better to have a good one once a quarter. Mr. Turner and the President also spoke on the subject corroborating the sentiments of the Secretary. After a few more members spoke, the motion was passed. Next meeting to be held on the fourth Saturday of April, 1908, at 1 p.m., in the Petersfield schoolroom. Circulars to be sent out to members on the third Saturday. Letter *re* prædial larceny came up for discussion, but was deferred, owing to the sparsity of members. On the suggestion of the President, it was decided to hold a special meeting to consider and discuss this most important subject, when, not only members, but also all in this district, who are interested in the welfare of the island, will be invited to attend. The special meeting was fixed for the 15th February, 1908. *Re* business with Messrs. John Haddon & Co., the President pointed out that it cannot be done without co-operation. The meeting being small this letter was tabled. *Re* Agricultural Loan Bank, the Secretary was requested to obtain particulars regarding rules, etc., from Mr. Arnett, so that the matter may be fully discussed at the next meeting. The meeting then adjourned.—J. ED. SIMMS, Secretary.

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Porus.—The annual meeting of this Branch was held in the church schoolroom on Monday, the 6th January, 1908. The meeting was called to order by the chairman, and the minutes of the last meeting were read and confirmed. At roll call, the following members answered to their names: Rev. W. B. Esson (President), A. S. Rose, S. A. Hendricks (Vice-Presidents), A. Thomas, D. Crosbie, W. A. Morgan (Secretary), J. Campbell, W. T. McPherson, J. D. Price, Thos. Morgan, A. Reddish, S. H. Blagrove, A. L. Nation, Benjamin McKenzie, M. L. Forrest, and C. Rowland (Assi. Secretary). The Secretary was asked to give his report for the year ending December 31, 1907, which he did. It was moved by Mr. S. H. Blagrove, seconded by Mr. A. Thomas, and carried, that the report be adopted. It was also moved by Rev. Esson, seconded by Mr. W. A. Morgan, that the report of the Treasurer could not be argued on until he was present. The matter was then deferred. The concert, in aid of the show, was next dealt with, and the Secretary, Mr. A. S. Rose, and the Master of Ceremonies, Mr. A. Reddish, gave the necessary information. The Secretary of the Show Committee was authorised to write Mr. Bonitto for information on the Kendal show as to when their show will come off. At this stage the meeting adjourned, and the election of officers for the year took place. Officers elected:—Rev. W. B. Esson, President; Messrs. S. A. Hendricks

and A. S. Rose, Vice-Presidents; S. A. Hendricks, Treasurer; C. Rowland, Secretary; A. Reddish, Assistant Secretary. It was suggested by Rev. Esson that the rules be revised and printed. A committee was appointed for the revision of the rules. Immediately after the election of officers a committee meeting was convened. The Secretary was asked to write the Secretary of the parent Society asking if he would send JOURNALS to members in Panama without extra charge. There being no other business, the meeting adjourned.—C. ROWLAND, Secretary.

[Postage would require to be paid on JOURNALS posted abroad.—
SEC.]

SECRETARY'S REPORT.—(1) After a year's work on most difficult lines, I am able to say that we have on record forty-five members (against thirty-six on the previous year). (2) The show, which should have been held in January of last year, was unavoidably and indefinitely postponed through the great earthquake of January 14, 1907, and the great sequel to this was the incessant drought, which lasted between eight and nine months, affecting, not only us, but the whole island. (3) I am glad to be able to report that we had four visits of the Agricultural Instructor, whose remarks on the preparations for our coming show, which is to come off on or about the 16th of March, were forcible and interesting. I am glad to say that we were able to have ten general meetings, one committee, three show committee, and three concert committee meetings, which were all fairly attended, and we look forward to a bright future and a prosperous year.—C. ROWLAND, Secretary.

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St. George's.—The annual general meeting of the St. George's Branch of the Jamaica Agricultural was held in the Court House, Buff Bay, on Saturday, the 11th January, 1908. The following members were present: Messrs. T. C. Geddes, C. A. Miller, Rev. W. J. Thompson, Messrs. W. G. Russell, J. O. Mason, R. P. Dunn, W. A. Chambers, A. E. Gregory, R. A. Burgess, J. H. Burgess, J. B. Sutherland, J. H. Sutherland, Isaac Haase, H. Welsh, N. Booth, Alex. Grant, W. J. Jackson, and many others. The minutes of the last general meeting were read and confirmed. The report for the year was then read and adopted. Arising out of the report, it was agreed to postpone the Cocoa Prize Holdings Scheme until next year on account of the damage done to the crop by the recent drought. Read letter from Mr. John W. Hill announcing his inability to be present at the meeting and resigning his position as President of the Society. A vote of thanks was passed for his services during the past year. Rev. W. J. Thompson then proposed a vote of thanks to the officers for their work to the Society during the past year, which was seconded by Mr. R. A. Burgess, and carried unanimously. Mr. T. C. Geddes replied, asking the members to give the officers their individual support, as by that so much more could be done by the Society. Mr. C. A. Miller also replied, and said that as he would be away for the ensuing year, he could not allow himself to be elected as an officer should the members wish to do so. Mr. T. C. Geddes was elected President. Messrs. W. G. Russell and R. W. P. Richards, Vice-Presidents, and W. Jackson, Hon. Secretary. The Committee as follows:—Mr. John W. Hill, Rev. W. J. Thompson, Messrs. S. S. Steadman, A. E. A. DaCosta, J. O. Mason, R. Russel, C. A. Miller, Isaac Haase, H. Welsh, W. A. Valentine, J. H. Burgess, R. A. Burgess. Local Secretaries as follows:—C. W. Walters, Fairfield; S. Campbell, Skibo; J. T. Delpratt, Bybrook; T. J. Russel, Windsor Castle; Joseph Baugh, Hope Bay; W. Chambers, Black Hill; B. W. Cummings, Tranquility; A. E. F. Clarke, Claverty Cottage; A. E. Gregory, Buff Bay. A letter from the Central Society was read *re* prædial larceny, and it was agreed to call a special meeting of the Society for Saturday, 25th January, to consider this. A resolution to establish a main road from White River bridge, through Craig Mill and Belvedere, to Enfield, St. Mary, along Nos. 3 and 4 parochial roads, was also put down to be considered on the same day. The meeting then adjourned.

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No. 3.

BOARD OF MANAGEMENT.

A MEETING of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Tuesday, the 18th February, 1908. Present:—His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. Dr. J. Pringle, H. T. Ronaldson, R. P. Simmonds, His Lordship Bishop Collins, Messrs. R. Craig, E. W. Muirhead, Joseph Shore, and the Secretary, John Barclay.

Apologies for absence were submitted from Mr. J. R. Williams, and Mr. L. P. Kerr.

Minutes. The minutes of the last meeting, held in December, and which were published in the January-JOURNAL, were taken as read, and confirmed.

The Secretary read letter from Mr. L. P. Kerr accepting the seat on the Board, to which he had been elected, and expressing his willingness to act on the Staple and Minor Products and Live Stock Committees, as asked.

Steam Road-roller. The Secretary read letter from the Colonial Secretary's Office as follows:—

No. 12481-14770.

20th December, 1907.

I am directed by the Governor to acknowledge the receipt of your letter, No. 3801, of the 13th instant, with regard to the use of steam road-rollers on the roads in this Island, and to say that this matter will receive His Excellency's careful consideration.

His Excellency said that provision would be made on the estimates for two, possibly three, steam road-rollers.

Fruit Accommodation. The Secretary said Mr. Fawcett was asked to make an inspection of the fruit accommodation on the Direct Line steamers, and reported on same. This report he now submitted, along with letters, from two prominent shippers of fruit, Mr. L. A. Isaacs, and Mr. Wigan.

After discussion the Secretary was instructed to send on the report and letters to the Government, together with a statement from Dr. Tillman as to comparisons of shipments by Elders and Fyffe's steamers and the Direct Line steamers, which he was asked, if possible, to get from Dr. Tillman.

The Secretary submitted letters from Colonial Secretary's Office, with usual reports from the Harbour Master of his inspection of the Direct Line steamers, covering period, from 21st November, to 30th January, when he found that the terms of the contract had been complied with.

Grants.

The Secretary said that the matter of making a grant for the proposed experiment ground at Rio Bueno, part of which would be used as a school garden, had been held over to see if funds were available. He found that they could spare £5 from money at the credit of Rent Account for this purpose, and a grant of £5 was therefore authorised.

Cotton Industry.

The Secretary submitted the following letters from the Colonial Secretary's Office :—

No. 148-14665.

January 6, 1908.

I am directed by the Governor to forward, for the consideration of the Agricultural Society, with a view to the issue to the Agricultural Instructors of such directions, as may be determined, a copy of the memorandum by Mr. C. Watson, of New Yarmouth estate, Clarendon, on the subject of the cotton industry in this Island. Mr. Watson is a member of the Board of Agriculture, and his memorandum has been adopted by that Board, as setting forth their views on the whole matter of cotton growing.

[The enclosure is published as an article in the body of the JOURNAL, entitled "The Cotton Industry in Jamaica."]

The Secretary said he had advised the Instructors accordingly.

(2) No. 1566, S.S. Misc., 12th February, 1908, intimating that the Secretary of State for the Colonies had advised His Excellency that the approximate value of Sea Island cotton, at the ports of shipment in the West Indies, was 1s. 3d. to 2s. per lb.

(3) Also letter from Mr. Shore :—

Cinnamon Hall, Little River, 13th January, 1908.

I must apologise for my absence at the meeting to be held on 16th inst., as I find it impossible to get away for the three days entailed.

I beg to protest against any attempt to fix a standard time for the planting of cotton in Jamaica, especially in August. It has been abundantly proved by the Island Chemist, and others, that Jamaica is composed of different districts with different conditions as to soils and rainfall, and this should be taken into consideration. In this district October is the proper time to plant cotton so as to have it coming in about the end of February to April. Our rains are heaviest, from October to the middle of February (Mr. Maxwell Hall's "winter rains"), and our driest months are June, July, August, and half September, as well as half February, March, and April.

I have tried Sea Island and Egyptian cotton on several occasions, and on four different properties some miles apart, and certainly have no hesitation in stating that Sea Island is not the variety suited to settlers or any one else on the Northside. Egyptian gives over three times the yield in lint and thrives much better, besides being much more hardy and less subject to insect pests. It seems strange that Egyptian seed cannot be obtained in Jamaica, but that we are to have Sea Island forced on us when we know it is not the kind we want; but such seems to be the way of things in Jamaica when a fad is taken up. As a commercial transaction, Egyptian cotton is far superior to Sea Island, and more suited to the needs of the settlers—that is my experience. 503 lbs. Egyptian against 136 lbs.

Sea Island per acre, for one crop, is the net result, with good cultivation. This speaks for itself, and even though Sea Island fetches double Egyptian in price, the latter gives a larger net return in cash.

Caravonica seems to me to be the wild Jamaica cotton, and seems to be the cotton of the future. It grows strongly, and is not disturbed by insects to any extent. Experiments are still being carried on with Sea Island and Caravonica. Can you help me to get some Egyptian seed?—
JOSEPH SHORE.

The Secretary said that he had explained to Mr. Shore that what was said by the Board of Agriculture was only that the best time to plant cotton was when corn was usually planted in the district, and that was generally between certain dates mentioned. But, of course, different districts differed, and in Mr. Shore's district and in Vere, October was, probably, the best season.

His Excellency said that as he had asked Mr. Shore to become a member of the Board of Agriculture again, and he had consented, he would, no doubt, help to keep that body instructed on the subject.

Agricultural
Conference at
Barbados.

The Secretary submitted the following letters from the Colonial Secretary's Office:—

(1) No. 12674-15060, 28th December, 1907, intimating that Mr. Fawcett and Mr. J. R. Williams would represent the Government, and the Agricultural Society at the Conference.

(2) No. 1694-1363, 15th February, 1908, enclosing letter from the Commissioner of Agriculture for the West Indies as follows:—

(Copy.) No. J 214.

Imperial Department of Agriculture,
Barbados, 20th January, 1908.

I have the honour to forward, for the information of your Excellency, a copy of the List of Representatives that have attended the Agricultural Conference that was opened on the 14th instant, and concluded to-day. Also a copy of the Programme of Proceedings with the list of the subjects brought forward for consideration.

2. I have pleasure in stating that this Conference has been entirely successful. Owing to the longer period, during which the Conference has been sitting, it has been possible to deal more fully than on any previous occasion with a larger variety of subjects intimately connected with the welfare and prosperity of the West Indies. I am in a position to add that all the representatives have joined most heartily in taking part in the discussions, in attending committee meetings, and generally aiding the objects in view.

3. The presence of so many agricultural officers connected with the other colonies, and the opportunities afforded them to compare notes with each other, and with the leading members of the Agricultural Boards and Societies, will tend to encourage further exchange of ideas by means of correspondence, and generally ripen efforts in regard to the many questions of importance now under consideration.

4. I desire to convey to your Excellency the deep sense of my obligations for the ready and cordial manner in which you have supported the proposals in regard to this Conference. I hope to forward by this mail, or the following, copies of a special issue of the "West Indian Bulletin," containing the presidential address, and a summary of the proceedings. The official report of the Conference will appear in due course in the pages of the Quarterly Journal of this Department, the "West Indian Bulletin."

5. I recommend that this letter and its enclosures be communicated for the information of the Agricultural Society and Board of Agriculture.
—D. MORRIS, Commr. of Agriculture.

(3) Also report from Mr. J. R. Williams as follows :—

Bethel Town P. O., 15th February, 1908.

On the appointment of His Excellency the Governor, who was asked by the Board of Management to nominate a Delegate for the Agricultural Conference, held at Barbados, from 14th to 21st ult., I had the honour of representing the Jamaica Agricultural Society at that Conference.

It was expected that the Conference on Trade Relations with Canada, which met at Barbados during the same week (and which I was also appointed to attend as one of the Delegates representing Jamaica), would meet at such times as might allow me to attend both Conferences. But, as it turned out, the Conference on Trade Relations sat exactly at the same time as the Agricultural Conference, and the only work I was able to do as your representative was to assist in the work of a committee appointed to deal with agricultural education.

Under these circumstances, I can do little more than forward to you the accompanying documents :

1. The Conference Number of the "West Indian Bulletin," which describes the proceedings of the recent Conference.
2. The List of Representatives appointed to attend the Agricultural Conference.
3. The Programme of the Proceedings of the Conference.

It will be seen that the discussions at the Conference dealt largely with the papers, which were to have been presented at the Jamaica Conference in 1907, and which have been published during the past year in the "West Indian Bulletin," volume viii (Nos. 1—3).

As Mr. Fawcett was in attendance at the Agricultural Conference through all its sessions, the representation of Jamaica agriculture suffered in no way by my enforced absence, but it was a matter of much regret to me that I could not better fulfil my commission as your representative.

All that could possibly be done to provide for the comfort and convenience of Delegates was most liberally provided by our hosts in Barbados, and I would suggest that the thanks of the Society be forwarded to the Imperial Department of Agriculture for the courtesies extended to its Delegate.—J. R. WILLIAMS.

Mr. Fawcett stated that he had sent in his report to the Government, which would, no doubt, reach the Board in due course.

The Secretary was instructed to forward the thanks of the Board to Sir Daniel Morris.

Following letters from the Colonial Secretary's Office were submitted :

(a) Enclosing papers relative to Fruit Marks Act of Canada, which were directed to be kept on file.

(b) *Re* importation of Indian cattle :—

No. 1123-S.S. 8.

30th January, 1908.

In continuation of my letter, No. 12098-13597, dated the 11th ultimo, stating, for the information of the Jamaica Agricultural Society, the steps taken by the Government to facilitate the importation of Indian cattle into Jamaica by means of coolie immigration vessels, if this can be arranged, I am directed by the Governor to say that the Secretary of State for the Colonies has approved of His Excellency's action in the matter, and of his proposal to continue to further private requests for facilities for

the importation of cattle by means of such vessels, on the understanding that all such requests for the assistance of the Calcutta Emigration Agency must be made through the Colonial Government.

(c) *Re* Government Veterinary Surgeon :—

No. 1101-8711.

30th January, 1908.

With reference to letter from this office, No. 7641-8711, dated the 8th August last, and to previous correspondence relative to the appointment of a Government Veterinary Surgeon, and, particularly, to a circular despatch from the Secretary of State for the Colonies, copy of which was sent to you with C. S. O. letter, No. 2688-S.S. An. 26.2.07, of the 30th March last, I am directed by the Governor to state, for the information of the Jamaica Agricultural Society, that he has now consulted the members of the Privy Council, and they agree with him in the view that such an appointment is not necessary in this colony, and that the expense of providing for it would not be justified. His Excellency has informed the Secretary of State accordingly.

Mr. Craig asked how this would affect any proposed Cattle Diseases Bill, such as the Board had recommended to the Government. Such bill required the services of a Government Veterinary Surgeon.

The Governor asked if it would involve the services of a Veterinary Surgeon other than the Government Inspector of Stock.

Mr. Craig said it would. He had always regarded this bill as an important matter, and he would be sorry if it was dropped. He hoped, however, that it would be brought up again, because the colony, undoubtedly, should have a Cattle Diseases Law. At present they had no protection at all.

The Governor said that the matter of this Cattle Diseases Bill had not been under his notice since he had assumed the Government, but he would enquire into the matter.

Prize Holdings Competition.

The Secretary submitted the Judges' reports, and awards for Westmoreland. He read the report of Mr. Cradwick. After discussion the awards for the ordinary prizes were passed, and the special prizes awarded in Class I and Class II, but in Class III only two of the special prizes of 5s. each, awarded to two widows, who had scored over eighty points were authorised; the remaining ten specials were not authorised to be paid.

The Secretary intimated that through the efforts of Mr. Simmonds, who was one of the trustees for a fund solely to be used for agricultural purposes in St. Mary, an amount of £20 5s. had been granted, so that the first, second, and third prizes offered in St. Mary might be doubled. The Secretary asked if the full list of competitors, and the points awarded, should be published in the JOURNAL. Mr. Cradwick strongly pressed that it should be done. They had no funds for this extra expense, unless they cut out several pages of the JOURNAL. It was resolved that the list should not be printed in full.

The Secretary reported on the judging of prize holdings in St. Mary, which, he said, was now going on, and would take six weeks, at least, to get through. Mr. Arnett had been transferred from his

own district to take up the judging with Mr. Cradwick, which entailed on both Instructors much extra travelling. An amount was provided in the allocation for the Prize Holdings Competition for expenses, but this year the amount had been entirely taken up in printing, new materials having to be provided, and also on account of the late judging last year throwing some of the expenses for last year into this year. He, therefore, asked for the transfer of £5 from money at the credit of Rent Account, and to take £5 from the entry fees, and thus allow Mr. Arnett £10 for travelling. This was very little for six weeks hard travelling, but he did not see any other monies available.

The transfer, as suggested, was authorised.

**Deterioration of
Horses.**

Mr. Craig moved the following motion, notice of which he had given to the Secretary :—

“That the attention of the Government be directed to the serious deterioration which has taken place within recent years in the breeds of horses, ponies, asses, and mules in this Island, with a view of finding means to check further degeneracy.”

[Mr. Craig's remarks are published as an article in this JOURNAL.]

After discussion the motion was unanimously carried.

The Secretary was directed to forward the resolution to the Government.

Prædial Larceny.

The Secretary submitted the following letter from Mr. A. C. L. Martin ;—

Cross Keys, 11th February, 1908.

PRÆDIAL LARCENY.—Since the discussion at the half-yearly meeting of the Agricultural Society, I notice from the papers that the matter is being discussed by several of the Branch Societies, and our own Branch here (Southern Manchester) intends to hold a meeting on the 20th inst. to discuss the matter. I hope the parent Society will take up the matter, and make some representations to the Government on this question and push it vigorously, so that the Government will see the necessity of doing something to put down this evil.—ALEX. C. L. MARTIN.

The matter was not dealt with meantime.

Port Royal Mountains Branch. Letter from Secretary of Port Royal Mountains Branch was submitted as follows :—

I have been requested to ask that you will kindly forward the following resolution to the Board of Agriculture and the parent Society :—

“That whereas in the last Prize Holdings Competition this district of Port Royal Mountains was unfairly treated, not getting the benefit of competition, and, further, since the appointment of an Agricultural Instructor for these Parishes, this district has not been taken notice of, and has got none of the advantages and benefits which the other districts are deriving from the Instructor's visits, this Society respectfully represents its claims to the parent Society, and also to the Board of Agriculture, that steps may be taken to remedy these grievances.”—C. L. A. RENNALLS, Secretary.

The Secretary stated that Mr. Briscoe, who was Instructor for the district, was under the Board of Agriculture, and had been instructed to pay special attention to cotton interests in Lower St.

Andrew, and the cocoa industry in St. Thomas in the East, so he had not been able to pay full attention to Port Royal Mountains district, but as the next Prize Holdings Competition would be held in St. Andrew, Mr. Briscoe would, no doubt, be much in evidence in that district during the year.

Grants to Shows. The Secretary said that an allocation of £100 had been made for shows for the next financial year, and he asked if the old rules would apply. The rule regarding grants had been 20 per cent. of the actual prize money awarded up to a total of £10. He suggested that this might be altered to 25 per cent. of the prize money awarded up to a total of £12 10s.

After discussion it was resolved to abide by the old rules.

Shows. Applications for grants to following shows were submitted :—

Mear's Pen, 20th April; Christiana, 21st April; Hampstead, 23rd April; Porus, 30th April; Santa Cruz, 1st August. The grants were made, subject to all the conditions governing grants in aid of shows being fulfilled.

The Secretary submitted letters from Messrs. Cooper & Co., Berkhamsted, England, and their representative, Mr. Timson, with whom he had an interview, when he passed through Jamaica. He had discussed the matter of dipping tanks with him, and promised to supply his firm with specimens of our cattle ticks. The firm offered the services of the staff of the laboratory free of cost for any investigations respecting fruit tree pests, and animal and plant diseases.

The Secretary was instructed to take advantage of this offer when opportunity offered.

Bulls to be Sold. The Secretary stated that he was having continual trouble with regard to the bulls. Somehow or other they were often out of condition, and Mr. Ewen and Mr. Rerrie, who had the two Shorthorn bulls, "Henbury Beau" and "Henbury Favourite," had complained that they had received them in poor condition. Indeed, Mr. Ewen complained that he had received the bull in such a poor condition that he refused to keep it as he did not see that he would get any service from it within reasonable time, unless the Society now paid something towards getting the bull into condition. He (the Secretary) had reported on the whole matter of the bulls to the Live Stock Committee as to the health of the animals, and reasons for their condition. The Live Stock Committee had held a meeting that forenoon, and, after considering the matter, the Committee had agreed that early opportunity be taken to sell the bulls. The Governor's consent would first have to be obtained, two of the bulls having been presented to the colony by His Majesty the King, and the other two by Sir Alfred Jones. He would say, however, that the Hereford bull that came from Knockalva, and was now at Annandale, in St. Ann, had been transferred in fine condition.

A discussion followed, during which it was stated that the Society would always have trouble with animals, unless it had its own stock farm.

The Governor said the Government would follow the advice of the Board in the matter. The Government had no greater wisdom on the subject than the Board.

It was left to the Secretary to make the best arrangements possible, and to report further as to the condition of the animals, before taking active steps to sell them.

The Governor said that it would be made a condition of sale that the bulls be kept in the island.

Affiliation. An application for affiliation from the Grand Cayman Agricultural Society, of which His Honour the Commissioner of the Cayman Islands was President, was submitted, and the affiliation was granted.

The Secretary was instructed to send the JOURNALS in parcels by the S. S. "Oteri," free of cost, to the members of the Branch.

Instructors' reports and itineraries were submitted. The Secretary stated he had gone carefully over them, and had made some extracts for publication.

New Members. The following new members were elected:—E. Moulton Barrett, Albion, Pedro; D. E. Kerr, Camaguey, Cuba; Edmund Parsons, Alex. Crighton, W. H. Cochran, A. J. Roberts, John P. Bodden, Denham Thompson, H. O. Morren, Telford Eden, Malcolm McTaggart, John P. Bodden, J. Timothy Ebanks, Wm. Farrington, Arthur Bodden, J. S. Webster, all of Grand Cayman.

Adjournment. The meeting adjourned till Thursday, the 19th March, at 11.40 p.m.

HORSE BREEDING.

In proposing the motion to the Board (see page 70), Mr. Craig said: In this motion I have assumed that it is a fact that the breeds of horsekind in Jamaica to-day, are greatly inferior to what these were within our recollection, and, in the knowledge of all, or nearly all, who are interested or take an interest in this important subject. I think it will be readily admitted that, to-day, it is extremely difficult to get really good horses, ponies, or mules, and, that twenty to thirty years ago there was no difficulty in obtaining these good animals in abundance. By good animals I mean well bred, well built, strong, sound, and serviceable stock that were a credit to us, as against the weeds and runts, which, I regret to say, abound to-day, and are discreditable to us. In my own experience, when I first came to this island, I was able to procure, easily, first-class carriage horses, and excellent weight-carrying ponies, quite good enough for Hyde Park, while, to-

day, one has to wait for years to pick up a decently matched pair, or a good saddle pony. My experience also, as a judge at shows, points every year to further deterioration, and to fewer exhibits worth looking at. This is not the first time I have called attention to this matter. In 1889, as a member of the Legislative Council, I had a bill prepared, for which I got the promise of cordial support from the then Government. Being a revenue measure, the then Collector-General was instructed to take charge of it. It was introduced, and the first person to oppose it was the then Colonial Secretary. He proposed to emasculate my measure for emasculation at the instance, I believe, of certain members of the Council, who would have directly benefitted by such a law, but whose vision at the time was obstructed by a proposed duty of forty shillings, beyond which they could, then, see nothing. Feeling indignant at what I must call a breach of faith, I had the bill withdrawn, and immediately after, I was urged by numerous persons in different parts of the country to re-introduce it. I have also been asked, at this Board to re-open the question, but having long ago left the Council, I expected, and think with some reason, that either the Government or some private member would do so; having regard to the importance of the subject, I now greatly regret that I did not continue to press the question, for all these years have been lost, and I must take my fair share of blame for this neglect. The main cause of the deterioration in the breeds of horsekind (I am aware that other lesser causes can be cited) is the fact that the castration of inferior animals, unfit for breeding purposes, has, to a great extent, ceased, and, in ignorance or indifference, these animals are used to perpetuate their species, with the lamentable results we see. There was a law on the statute book, 26 Vic., sec. 1, ch. 3, which expired on 31st December, 1866, dealing very drastically with stallions not of the height of $14\frac{1}{2}$ hands and three years old and upwards, or found at pasture, or running at large. The horse was forfeited to and became the property of the person finding him ["taking up the same" are the words of the law] unless the owner of the beast tendered £1 for each horse, and had him castrated forthwith at his own expense. I have heard that this law was acted upon for years after it had expired, and it was, no doubt, a very effectual law for the times. I do not, however, propose that its provisions should be re-enacted. My bill was a simpler one, and was as follows:—

“A Bill entitled the Entire Horses and Asses Tax Law, 1889.

“Whereas it is desirable to impose a special tax or duty upon or in respect of certain entire horses, ponies and asses, and mules, be it enacted by the Governor and Legislative Council of Jamaica as follows:—

“(1) The first section of the License and Registration Duties Law, 1867 (Law 30 of 1867) is hereby amended by adding to the list of duties, and of horsekind subject to duty, the following at the head of the said list:—For each entire horse, pony, or entire mule, and for each ass used for breeding mules, of the age of three years

or upwards, whether used upon any road or not, forty shillings; provided that any such entire horse, pony, mule or ass, shall not be liable also in respect of any of the other duties imposed by the said section.

“(2) This law is incorporated in, and is to be read as part of, the License and Registration Duties Law, 1867.”

To-day, Mr. Craig said, I would somewhat extend its provisions, and supposing such a law was passed in the session about to open, I would suggest a clause postponing its operation till 1st April, 1909, the law being meanwhile duly published so that no one could plead ignorance nor hardship, and I would extend the tax to entire ponies and asses used for breeding purposes.

The effect of this importation would certainly be the castration of practically all those animals that were not really valuable as sires. give the owners of valuable sires the assurance of their employment, and remove the danger of having valuable mares spoilt for breeding purposes by straying runts, or diseased or worthless entires. To secure these advantages, I take it that no owner of a valuable stallion or proof ass would grudge to pay a tax of forty shillings per annum, but it would appear that even among classes of persons who ought to know better that a cheap or stolen service counts for more than a well bred dropping. It has been suggested to me that no sire should be kept for service, unless he has been examined and pronounced sound, is of proper conformation, and is registered. While I am in sympathy with this suggestion, and admit the desirability of it, it is surrounded by very great difficulties and expense, and I fail to see how it could be put into practice, or how it would prevent undesirable animals being used for breeding purposes, as at present, except under a system of policing, which is in my view, quite beyond contemplation. The tax I suggest can be collected with very little trouble or expense, and a part, if not the whole, of its proceeds might be used in offering premiums for the importation of certain classes of stud animals—male and female—and for horse and pony stallions or asses, to stand in certain districts at fees within the means of the small settler or owner. Should the Government adopt my proposals I am convinced that in a very few years, say not more than four, the horsekind of the island will show marked improvement. I must not, for a moment, be supposed to be detracting from the efforts of men who import stud animals, and who breed good stock, when I assert that a serious degeneration has taken place in our breeds of horsekind throughout the island. My desire is to protect their efforts, and to enable them to benefit legitimately by their enterprise, and I should, therefore, be much surprised if these persons raised objections to what appears to me a strictly conservative proposal, and in their interests. There is no question whatever of the suitability of certain localities in Jamaica for horse-breeding, and, in my knowledge, these districts can produce a class of horses for which there is a good export demand, notably, polo ponies, but also first-class, light carriage horses, and

anything that will encourage and help this industry should, in my opinion, and I trust will, receive the careful and sympathetic attention and assistance of the Government. I have brought forward this motion in the hope that His Excellency, our President, will see his way to introduce such a measure as I have indicated in the session of the Council which opens to-day, and I ask the Board to support my suggestions.

Mr. Muirhead supported the resolution. Having had some experience, he said, in the horse-breeding and mule-breeding industry of the island, he fully endorsed all that Mr. Craig had said as to the deterioration of stock generally, and he was convinced that some such means were necessary for the resuscitation of the breeding of first-class horses and ponies and mules. He did not think anything that Mr. Craig had alluded to in the way of hardships would be felt at all by the parties who imported and endeavoured to try and produce a better class of animals. There were many difficulties that they had to contend against, and he believed that by the introduction of some measures in the Legislative Council on the lines suggested by Mr. Craig, some material benefit would be achieved.

The Governor said he thought the proposal of Mr. Craig was a very reasonable one, and he should like, personally, to give it his support. He was doubtful how far the deterioration in horsekind could be traced to the mere deterioration of sires, or the careless use of sires. What had struck him was that, for some years past, the great rise in the value of mules had caused a number of good mares to be sent to the jack, and those mares produced mules instead of horses. Therefore, that was one of the reasons why good horses were scarce, as the owners of mares were breeding mules from them. That was a tendency that had operated very strongly in recent years, and might require some other corrective to amend it. That point was not an argument against what was proposed now, but a suggestion that the evil did not altogether arise in the way stated.

Dr. Pringle said there had been a great deal of importation of racing horses in the island within the last few years, and he thought it was from racing horses largely that carriage mares were produced. The large importation of racing animals seemed to him to have rather discouraged a large number of breeders, who used to breed race horses, which, if they did not turn out to be as good as was expected for racing purposes, would be turned into carriage horses. He thought the reason that the President had stated, and the reason he (Dr. Pringle) had given had gone against people, who used to breed horses in the past, doing so now. He thought that the attempts made in cattle kind, in the introduction of bulls and their keep by that society, certainly would not encourage one to adopt the same plan by the importation of stud animals—he meant horsekind. He thought it was very questionable—except the Government were prepared to establish some kind of a farm, or, at any rate, to have some sort of supervision as they had in Trinidad—he did not know whether that had been a financial success; he questioned it very much) he

should doubt the prudence of the Government entering on horsekind, having regard to the experiences with cattle.

Mr. Craig : I did not suggest that.

Dr. Pringle : I know you did not. But these points should be considered very carefully. They require more carriage horses than they had just now, but if they had a dozen or two dozen pairs of carriage horses that would supply the demand.

TICKS.

THE blood is the life. The food we eat, the water we drink, and the air we breathe, are what make the blood. We all want our cattle to grow as quickly as possible, and so we try to provide them with as good feeding as possible—pure air they always have, and pure water they ought to have. But if our cattle are infested with ticks, each tick lives off the cow by sucking its blood. We have seen cows continually covered with ticks. In such cases whatever ticks were visible represented only a small minority of what must have been on the animals ; small ticks hidden by the hair, but every one feeding on the cow. It takes about 1,500 ticks of average size—say half grown—to weigh a pound. And as in one week, sometimes in a night, a tick may grow from an almost invisible speck to a big, fat, blood-gorged fellow, there may be several pounds weight of ticks grow and fall off in a week—certainly in a month. So that a cow may often be losing a pound of blood every week. How much food consumed is, therefore, going to feed ticks, instead of making beef or milk ?

Wherever cattle ticks are found this problem of getting rid of the pests is being energetically tackled, and we here must not be behind hand. The best penkeepers are all now alive to the importance of clearing their pens of ticks, and many of them within these last few years have been able to make such a difference that people can step off the road into the pastures without getting instantly covered, and can even walk through pastures without being eaten up. It is not only our cattle that suffer, we suffer ourselves, for we may not wander around our lands freely, or fling ourselves down on the grass to rest as we like, because we are mortally afraid of ticks. Visitors to the Island are thus also impressed badly.

Meanwhile the largest penkeepers are vigilant in clearing their cattle of ticks regularly at short intervals to prevent them breeding. The smaller owners of cattle, we regret to say, often never tick their animals at all, and so help to perpetuate the pests. There is no excuse for any one keeping a few animals ever having ticks on them to any extent.

Besides hand-picking them, when the large ticks are taken off, thousands of the small ones may be killed by washing or rubbing

into the hair some of the mixtures so often written about in this JOURNAL and advertised.

However, to show some of the methods actually in practice, we give the experiences of some well-known pens brought up to date.

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In reply to your letter asking me for a brief statement of my routine for treating cattle when troubled with ticks, and so keeping the awful tick plague in check, I am pleased to say that I still use the same wash which I mentioned when you last requested me to state my experience of dealing with the somewhat serious subject of ticks, viz., Universal Disinfectant; proportion 1 to 8; wash thoroughly applied with a good, stiff brush, such as is used for grooming horses. Wash to be put on against the hair. After the animal has been so washed, a mixture of linseed oil, disinfectant, and tar (proportion, 3 oil, 1 disinfectant, and 1 tar) should, with advantage, be lightly rubbed on around shoulders and ears, and between breast and thighs and feet. This latter treatment is particularly necessary when the animal shews ticks in great quantity, after being washed. I have, for the past five years, systematically treated all animals, which have been, to any extent, troubled with ticks, to the course above stated, with most satisfactory results, for during the long severe drought of last year, when water was scarce and impure, and feeding poor and insufficient, I lost, practically, nothing, and reared 85 per cent. of calves. This I attribute to regular and persistent washing. I may here mention that a pint of raw linseed oil, with a tablespoonful of common salt, given to any full grown animal previous to washing same, will prove efficacious. This treatment may be adopted with equal advantage on horsekind.—A. M. LEWIS.

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Your letter *re* dressing of stock to hand. I always have the large ticks taken off the cattle and burnt, and then a mixture of coal tar and oil (say one to four) is applied with a brush to any part of the animal where there are small ticks. My mares and young horse-kind are curried down two or three times a week, and dressed with Jeyes' Fluid and oil. If any mares or foals are badly covered with small ticks, I use kerosene oil and water, put on and rubbed in with a cloth.

I prefer "nut oil" * to others, as I find it keeps moist longest. I now have very few ticks on this property, and my stock generally look clean and healthy.

I strongly advise penkeepers to keep their properties clean, as bush encourages ticks.—STAFFORD MAXWELL.

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In reply to your memo. of the 9th *re* "Ticks," below I give shortly our mode of dealing with them, and also send you by this post, under separate cover, a leaflet, issued by the U. S. Department

* Castor oil.

of Agriculture on the best way of dealing with the tick plague, which may be of use to you. I may say that, after some years of practising this method, the ticks here are considerably reduced from what they were, and now give me very little trouble :—

1st. Pastures to be kept as clean of bush as possible, as I find the seed ticks live more on bush than grass.

2nd.—All our cattle are penned three times a week, and *all* the “fat” ticks picked off by hand and destroyed. I never pass a “fat” tick on an animal, as these are the ones which soon drop off and spawn. By destroying these, one stops the increase to a great extent.

3rd.—Where there are bunches of small ticks on the cattle, these places are rubbed with a mixture of tar and oil (half and half). Our horses (brood mares and young horses) are penned every day, and all ticks taken off by hand and burnt. When foals or young calves get small ticks over them, I wash them with a weak mixture of McDougall’s sheep dip and water, which successfully destroys all the ticks after one or two washings.

4th.—I keep *all* the stock in as good condition as possible, and find that then the ticks do not trouble them much. Our cattle are very quiet, and mostly stand anywhere in the pen to be tickled, and, after a time, seem to appreciate the operation.

Shortly, that is all we do here, and have found it so successful that the ticks are now so reduced that every penning of cattle means, perhaps, 10 per cent. being caught and ticked.—A. P. LOCKWOOD WINGATE, Pepper Pen.

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I have nothing to add to what I wrote in 1906, *vide* Agricultural Society’s JOURNAL for February, 1906, page 80. The drawback seems to be that, whilst some stock-owners make every effort to keep down the ticks, others are so blind to their own interests that they do almost nothing.—ALEX. C. L. MARTIN.

COTTON INDUSTRY IN JAMAICA.

(This Memorandum has been accepted as the Views of the Board of Agriculture.)

In consequence of the failure of the first effort to establish the cotton industry in Jamaica, the next attempt to do so must be made with great care, as a second failure will put back the development of the industry for many years.

To quote from Sir Daniel Morris’ Preface to A B C of Cotton Planting, “It is only those who are in a position to give constant personal attention to cotton growing, and to deal promptly with the cotton worm, who are recommended to take up the industry. It is not suited to those who have not had previous experience in planting ;

and even those who have had such experience are advised to make themselves thoroughly acquainted with the requirements of the industry before they embark upon it."

Having had experience of the infancy of the industry in the West Indies in 1902, I venture to suggest the following scheme for establishing the industry in this island :—

1. That the Agricultural Instructors should carefully study the A B C of Cotton Planting, published by the Imperial Department of Agriculture.

2. That the Agricultural Instructors should frequently visit the fields of cotton at New Yarmouth and Moorlands, and the fields cultivated by Mr. Desporte to obtain all information possible, and to make themselves, as Daniel Morris puts it, "thoroughly acquainted with the requirements of the industry."

3. That the Agricultural Instructors should endeavour to interest in its cultivation, at least, one intelligent planter in each locality suitable for the cultivation of cotton, and to encourage each of them to plant about three or four acres in August, 1908.

4. That the Instructors should recommend planting about the middle of August, thereby ensuring a dry season for reaping, which is important. If a good stand be established before the October rains, the plants do not get strangled by weeds, and the cost of weeding is much reduced ; added to this, the reaping will be done in the dry months of January and February. Districts may vary somewhat, and allowance must be made for this, but the times mentioned are most general. Corn-planting time is the proper time.

Spring planting should commence with the first rains in March, and planting should not be continued after April, so that as much of the crop as possible might be picked before the September rains.

5. That when experimental plots of cotton are so established in suitable districts, the Agricultural Instructors should give demonstrations in the fields to the neighbouring settlers.

6. That whenever the settler does plant cotton, the Instructors should report the fact to the Agricultural Society, who should immediately take steps to place Paris-green within easy reach of such settler, persuading a local man to retail it at a reasonable price, or, failing that, the Society should purchase a quantity, and make arrangements for retailing it, always bearing in mind that it consists principally of arsenic, and must be dealt with carefully.

If the foregoing recommendations be properly carried out, the industry will then take care of itself, and as the cultivation increases ginneries will be erected, the proprietors of which will gladly either gin or purchase seed cotton. It is recommended that the purchasers of small lots of cotton should keep the seed of the best cotton from the larger lots ginned by them, giving these seeds at the rate of 6 lbs. per acre for each acre of land cultivated, to the parties selling them the cotton, thereby securing a good quality of cotton for the next season, which cotton they will again purchase.

The value of seed so given would be less than 3d. on each 30 or 40 lbs. of lint obtained from the seed cotton purchased, and on which 40 lbs. they might thereby gain an extra 1d. per lb.

Purchasers of seed cotton could give a minimum price of 2½d. per lb. for seed cotton.

The ginner must net 1s. per lb. to cover that price without any profit, and small lots of cotton from different localities vary so much in quality that a mixed bale might sell at a very low figure on a basis of the worst sample.

Competition would cause the full value to be given on a parity with Liverpool quotations at the time of purchase, and 3d. per lb. would frequently be obtainable. Ginners of cotton could make a good profit by ginning cotton for the seed, and ½d. per lb. for lint, or for 1½d. per lb. without taking the seed. 100 lbs. of seed cotton gives, approximately, 28 lbs. lint and 72 lbs. seed; with seed netting £4 per ton, 72 lbs. is worth 2s. 6½d. less, 5 per cent. for loss of weight, 2-5, about equal to 2s. 4d. for the 28 lbs. of lint ginned, or 1d. per lb. of lint for ginning cotton, leaving only ½d. per lb. to be paid for ginning, if the seeds be taken.

I advise that a labouring man should not be urged to plant cotton as an experiment, which it certainly would be, but should any man plant it of his own accord, he should be assisted in every way.

My recommendations are not theoretical but are based on my practical knowledge of the manner in which the industry shaped itself in the island of Montserrat.

The industry was started in that island, in 1902, on three sugar estates, of which I was attorney. Thirty acres were planted on each estate, after having experimented with one acre on each the previous year; the settlers predicted failure, and a few small proprietors and settlers planted one or two acres and did fail. Later on, however, when they realised that money had been made, they again planted, advised by Sir Daniel Morris to take the cultivation of the estates as an object lesson, the result being that settlers now grow cotton successfully and Montserrat is well to the front in the industry, there being five ginneries, and several purchasers of cotton in that small island.

Of course, the Imperial Department of Agriculture assisted, as usual, and my recommendation *re* Paris-green, paragraph 6, is based on the action of the Department. —(C. WATSON.

DIPPING TANKS.

In countries, where there are very large herds of cattle, and ticks are even more of a pest than they are here, hand-picking and washing by hand, would be out of the question, and so dipping tanks are used. In Australia and South Africa much attention has been

given to this, and to testing various preparations to find the most economical and effective. Now, if our herds are not large enough to warrant the outlay on a dipping tank, still pens are close together, and one tank would do for several, that is, if we really could co-operate at all. We are accustomed to building tanks, we have the lime handy, cement is not outrageous in price, and once built a good tank would last a lifetime. Consider what time and trouble and worry a dipping tank would save.

The agent of Messrs. Cooper & Co., of cattle dipping fame, was here a month ago, after travelling round the world in the interests of his firm, and offered us to erect a dipping tank in a central neighbourhood for cattle, if some one would take care of it. There would be a charge for dipping to pay off the cost.

A successful and cheap dipping material used in South Africa is arsenate of soda.

It is not easy for some to understand how a dipping tank is worked. It might be difficult to get it used through a long spell of dry weather, but then it is just as difficult to wash cows then. There is a passage sloping down to the tank, and the same up from the tank on the opposite side. This breadth of the passage admits one beast, so that there can be no squeezing, and the animals follow one another. The tank is filled to take the largest steer up to the neck : if the others have to swim all the better ; they get thoroughly covered and saturated. As they walk up the passage on the opposite side, the superfluous dip material drops off and runs back into the tank. The footing is of concrete. When the herd is drawn up, and the first beast goes into the passage, the others behind force it along, if it is unwilling. For the first few times there may be trouble in getting the beasts to go through the dip, but they are easily guided from the top with long poles, and afterwards they are quite eager to go through. Zinc sheets are put up to catch rain and run more water into the tank when it is wanted. A large herd of cattle can be passed through in an hour or so.

SEEDLING SUGAR CANES.

In a report of the Superintendent of Field Experiments (P. W. Murray) to the Board of Agriculture, it is stated that he visited Manchester Pen, which is on the borders of Trelawny and St. Ann, near Stewart Town, where there is a small rum factory. Mr. Milliner had taken the distiller's course at the laboratory one season, and was anxious to conduct experiments with manures. He had, therefore, been sent a set, which Mr. Murray applied when he was there. There was also established on Mr. Milliner's property, for the coming year, a very good experiment of seedling canes of several of the best varieties in large plots. Mr. Milliner considers B 208 the best of the lot, as they had shown wonderful power in resisting the severe drought. Mr. Young, of Tobolski, also considered B 208 and B 147

grown for stock food, altogether superior to the local canes. Mr. Murray says it is a matter of great satisfaction when travelling through the country, wherever sugar cane is grown, to see how well B 208 had stood the drought. The planters, who have tried it, speak in the highest terms of it, and are establishing it as fast as they can get the necessary tops.

At Mona estate, as the result of three separate experiments, two of ratoons and one of plants, B 208 grew more luxuriantly, and gave better crushing results, and richer and superior juice, with an increase of 50 per cent. over the ordinary estate canes yield. In the second ratoons, under the conditions of drought, its superiority has been well demonstrated. It gave an increase of 45 per cent. in sugar over the Jamaica white transparent cane, and 175 per cent. over the old Jamaica cane. In the next instance, similarly encouraging results were obtained, the D 95 showing up well.

On Parnassus estate, the canes, B 147 and B 208, have far outgrown anything planted at the same time. Mr. Grant, the overseer, speaks in the highest terms of these canes, and intends to try them on larger areas.

Mr. Taylor at Long Pond estate, Trelawny, as a result of his varietal experiments, found B 147 to suit his conditions best, and would like to plant it on a large scale.

At Llandovery estate, in St. Ann, a field with three acres of B 208 cane, not having water during the long drought, did not show the effects of the weather to any appreciable extent, when many of the ordinary estate canes died out entirely.

STOCK NOTES.

SALT FOR ANIMALS.—The following reasons why salt should be regularly supplied to farm stock are given by Professor A. P. Aitken, D.Sc. :—

1. Because in the blood of animals there is six or seven times more sodium than potassium, and that the composition of the blood is constant.

2. To keep animals in good health a definite amount of common salt must be assimilated.

3. The excess of potassium salts in vegetable foods causes by chemical exchange an abnormal loss of common salt. This is proved by the fact that the craving of an animal for common salt is most noticeable when the food contains a large proportion of potassium salts, such as wheat, barley, oats, potatoes, beans, and peas.

4. The addition of salt to animal food increases the appetite, promotes the repair of tissue by its searching diffusion through the body, and stimulates the rapid using up of its waste products.

5. Boussingault's experiments showed that salt increases muscular vigour and activity, and improves their general appearance and condition.

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JOLTING MILK DURING TRANSIT.—Another new discovery has lately been reported. In one particular factory it was repeatedly noticed that the milk supplied by farmers from a distance yielded less butter in proportion than that which had only to be brought a short distance. This led to experiments on the effect produced by the jolting to which milk is liable during transport. The method adopted was as follows:—A quantity of milk was taken and divided into three parts, from which butter was made after cooling, followed by ten hours' creaming. The three parts (A, B, C) were, however, subjected to different treatment; A was at once cooled by means of ice-water; B after standing two hours; C after being placed in a tin can and driven about for two hours in an ordinary cart. The average results were as follow:—Taking the yield of A in butter as 100 per cent., B produced 93.2 per cent., and C 88.5 per cent. These figures show that it is by no means a matter of indifference whether the milk is at once cooled, or whether it gets a prolonged shaking. The shaking seems to diminish the yield, causing great uncertainty and irregularity in the results. Finally, keep good cows, feed them well, give them plenty of food and shelter, treat them kindly, and observe scrupulous cleanliness, and prosperity is assured.

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THE TREATMENT OF REDWATER.—We have given several recipes for the treatment of redwater, recommended by the Veterinary Officers of various Departments of Agriculture and Stock throughout the world. Here is a remedy recommended and used in Ireland:—

“Taken in the earliest stages, a simple purgative of Epsom salts, with oil of turpentine or sulphuric acid, is often sufficient to check the disease—I presume by clearing away the altered material before it has gone far enough to affect the animal materially, and while sufficient strength remains to withstand and eliminate the degenerated products from the system. Cases have occurred to my knowledge where, though fully marked, in the course of an hour or so the water has become natural and the animal apparently well without any treatment whatever. It is difficult to account for such cases, and they are anything but frequent. The ordinary course is that the disease progresses until checked by medical treatment.

“My favourite treatment, and it has proved very efficacious in my hands, is oil of turpentine and perchloride of iron; small doses of turpentine—I rarely give more than half an ounce—and one drachm of the perchloride of iron every four hours. Large doses I have found injurious, irritating the already irritated kidneys. Where there is weakness or much debility, stimulants can be given with advantage, and other restorative measures may be used as the individual case demands. Further, the animal's strength should be

maintained with nourishing drinks of flax-seed tea or oatmeal gruel.”
—D. HAMILTON, M.R.C.V.S. * *

CO-OPERATION IN AUSTRALIA.—The dairy industry has not only been regarded as fair game for trusts, but as a dainty joint for the middlemen. Australia has lately shown a pretty adamant front to the shipping combine, which tried to extort double freights, and the producers are now arming themselves against the middlemen. This fraternity is posted at every stage of the butter's journey to the consumer. Some of them have been cuchred already by co-operation, and it is pretty certain that more of them will get the slip as time wears on.

Many of the factories are now marketing their butter themselves in Great Britain. They do not certainly sell direct to the retailer, but their representative arranges direct with reputable firms to dispose of the produce sent. The representative's duty is to keep in close touch with the market, and is daily in personal touch with the firms selling the produce, so that he is sure that each consignment is sold on its merits, and to the best advantage.

The idea was not entered upon without misgivings on the part of the factories so acting, because it was felt that the rings would be able to squeeze the buyers. Yet the producers took the risks, and they have succeeded beyond anticipation. The success of factory after factory has led to a general movement in the same direction, and a very large number of the co-operative factories are adding to their profits the share which the seller in London hitherto appropriated.

A group of co-operators in Victoria led the way a year ago, and their pluck and loyalty to one another won the day against the hostility of the enemy. The progress of the movement reads like a fairy tale. Factory after factory fell into line.

By the arrangement a net profit of £8,000 was made amongst them last year over and above what they would have received had they remained at the mercy of the middlemen. These profits are now being distributed as bonuses to the suppliers. In Queensland the factories were recently tackled by a new form of imposition—the saw millers put up the price one-third for pine used in the manufacture of the butter boxes. So the co-operators have decided to combine and put up a saw mill of their own, when they will be independent of the millers. Trusts in Australia get short shift. The practice is to crush them when they are budding, and there is a federal law which gives the government power to fall upon them if there is any attempt to squeeze the public. But it is a much better way if the producers can combine to get the same results.—J. L. DUNNEY, Sydney.

REPORT OF PRIZE HOLDINGS COMPETITION.

I. HANOVER.—I beg to submit the following report on the Small Holdings Competition in the parish of Hanover. One hundred holdings were visited by myself and Mr. Mennell, of these ninety-seven were exam-

ined and adjudicated on. The Agricultural Society of the parish of Hanover has offered prizes to the value of £3 10s., in addition to those offered by the Board of Management of the Agricultural Society. We beg to recommend that these prizes be awarded in accordance with the returns submitted herewith, as well as the extra prize money, which we trust the Board of Management will see its way to award out of the funds, provided by the entry fees for this parish. The number of entries, one hundred, cannot be regarded as anything but satisfactory, especially when the size of the parish is taken into consideration. The general improvement in the holdings submitted for judging must also be regarded as satisfactory. The improvement in the holdings of the winners of the first prize in the first class, and the first prize in the second class, is particularly pleasing. It is true that Mr. Lindsay was the winner of the second prize in the first class in the last competition in this parish; his advance to dividing the first prize with Mr. Woolery, however, does not indicate the improvement which has actually taken place in his holding. His cultivation shows a marked, all-round improvement; his fences, and general appearance of the holding, have very much improved. A new house is a credit to him, a joy to the heart of his wife and family, and a source of great gratification to us, as being the direct outcome of the Small Holdings Competition. The improvement in Mr. Woolery's holding, from the last competition, is indicated by the difference between a consolation prize last time, and sharing the first prize with Mr. Lindsay this time. From the last competition, Mr. Woolery has steadily kept the first prize in view, and has spared no effort for the improvement of his cultivation, fixing up of fences, improvement of his house, sanitary, and general conditions, etc., and is to be heartily congratulated on the wonderful strides he has made. Mr. C. M. Scott's holding has always been well cared, and its continued excellence has again insured him being well up in the rank of prize winners. Mr. Charles Pullar, the fourth prize winner in the first class, has improved his holding to such an extent as to merit his advancement from a competitor in the last competition, who was not even favourably mentioned, to the winner of the fourth prize. Mr. Slyfield is an old competitor, who has maintained the general excellence of his holding. The marks will indicate his weak points, which, we sincerely trust, will be remedied before the next competition.

We regret to see that Mr. Godfrey has gone from first place to the sixth. This is due, strange to say, to his wish to advance himself in the world. He has been adding land to holding. This, it would appear, took away ready cash, which might have been spent on improving sanitary conditions, and also depleted his stock, so that he lost marks under these two headings. It will be noted that his cultivation and fences have maintained their former high average.

Mr. W. S. Campbell is also to be congratulated on his rise in the scale from the last competition; particularly does he deserve commendation for the improvement in the entrance to his holding, and for the fine catch crops which he showed us.

Mr. Edward Mowatt has advanced his holding in size to a first class, but this has lowered his average under permanent crops, and has also prevented the completion of his house, both of which, however, will probably be in a very different state for the next competition.

The very greatest improvement, in all the holdings, has, however, taken place in that of the winner of the first prize in the second class. Mr. Russell has commended in the last competition; this time he takes the first prize with one hundred points.

The winner of the second prize has also greatly improved his holding. This holding was entered in the last competition, and was visited by the judges, but on account of some misunderstanding on the part of the owner, it was not judged, but, we think, we can safely say that had it been, it would not have earned a prize.

The first prize winner in the third class was found in a new competitor, Mr. Thomas Crooks, whose holding was worthy of every commendation.

Mr. Thomas Malcolm, the winner of the second prize, has risen from a commended holding in the last competition to a second prize winner in this.

We were really sorry to see our friend, Mr. Wm. McTaggart, putting up with third place in this competition, not on account of any deterioration of his holding; on the contrary, it is very seldom, if ever, we see such good use made of an acre of land; its trim tidiness would make any judge want to give it first prize, but the loss of eight marks, under the heading of "Live Stock," brought him down from first to third. Under the rules it was impossible to do otherwise.

We were pleased to see Mr. Wm. J. Neydrick take the fourth prize. We trust that during future competitions more schoolmasters will come forward, and, in this practical way, show their appreciation of the efforts of the Agricultural Society in improving the condition of the peasantry, as well as set a good example to their brother teachers. Finally, we were glad to see that the majority of the competitors took the competition in the right spirit, and that their efforts to improve their holdings were chiefly in the direction of solid improvements, as well as a general cleaning, scrubbing, whitewashing, and painting, and we do feel very strongly that the money spent on this competition by the Agricultural Society is money well spent. We fully realize that a good deal of the excitement is evanescent, at the same time when we see holdings being taken in hand, and improved in the way that some of these have been since the last competition, it would be as idle to argue that the example from these will not result in good to others, as it would be to say that these improvements would be brought about without the stimulus of the Small Holdings Competition. Many a competitor told us that, without this competition, he would never have dreamt of making the improvements which he had.

The wife of one of the competitors put it in perhaps a more homely way, but certainly much more to the point, when she remarked to us: "Well you tink some of those poor woman no glad for dis ting. Before dis competition come dem never see dem door mouth fe bush."

We would once again take the opportunity of urging on the Society the desirability of lessening the intervals between the occurrence of the competition. We sincerely hope that the original plan, at least, will be carried out, *i. e.*, of having four parishes for two years, and the five parishes the third year, so that the competition will not be at greater intervals than three years.

It should be noted that where the Judges have recommended extra prizes, it is to recognise the merit of the section which has gained full marks.

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W. CRADWICK.

H. D. D. MENNELL.

II. WESTMORELAND.—I beg to submit the following report and awards in the Small Holdings Competition in Westmoreland. Ninety holdings were visited and judged by myself and Mr. Mennell. On the whole, we were pleased with the competition, although the very evident depression among small settlers in the lower part of the parish, to a very great extent, spoiled the competition there in the third class holdings. This can easily be seen by comparing the returns of the third class with those of the first. Only one first-class holding was judged in the lower parts: that of Mr. Robert Daly, near Grange Hill; that one, strange to say, obtained a high average in the first-class, while the holdings in the third-class, in the same locality, were very poor. We attributed this depression among competitors on the plains to the severe drought which they passed through during the present year; the low price of logwood, and the consequent restricted circulation of money in their districts. Then, too, the influence of proper

ties, where work is always obtainable, and a little ready money, however little, can always be earned, would seem to have an influence not for the good of the peasant. In the mountains, where the peasant has to depend almost entirely on his own efforts, the standard of comfort, as evidenced by good comfortable homes, and the ownership of nice stock, etc., would appear to be much higher. Holdings, such as that which won the first prize in the first class, are only to be found where the small proprietor has been dependent on himself for a considerable time. Mr. Graham's holding is of the greatest value as a demonstration plot of the possibilities of cocoa cultivation in the Lamb's River district; better trees, or better bearing trees for their age, are not to be found in Jamaica. The benefits of drainage and deep cultivation are also thoroughly demonstrated in this holding. Proper drainage, five years ago, was a sealed book to Mr. Graham; now he is almost a fanatic on the subject. Cocoa, coffee, bananas, ground provisions, and ginger, are all grown with thorough drainage, much to Mr. Graham's financial benefit.

W. CRADWICK.

H. D. D. MENNELL.

POULTRY NOTES.

SETTING.—This is the thick of the hatching season, and as fowls are scarce in the country, and eggs have been scarce and dear, housewives should take care to secure plenty of chicken.

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THE setting hen is too often badly neglected. She sets faithfully, and when she comes off for ten or fifteen minutes, she has no time to seek food, even if that were to be found for the seeking. She cannot often find water, and a setting hen, naturally, after twenty-four hours confinement, is thirsty.

The setting hens, therefore, should be taken off every day, and fed and watered carefully; it is absolute cruelty, it is wicked to neglect doing so, yet it is a common neglect. It is the little things that count, and ostentatious kindness to our horses or dogs does not make up for the real cruelty that is happening to lesser, but important domestic stock in the same yard.

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A PASTE compounded of two parts lard, one part kerosine, and one part flowers of sulphur, makes a good insect destroyer for hens. It should be rubbed on at the juncture of the tail and body, the back of the neck and head, and underneath the wings. The lice go for the lard, get caught in it, and the kerosine and sulphur combined destroy them. This paste also cures scaly leg, if well rubbed in several days in succession.

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As we have often repeated, the easiest and safest specific for yaws in chickens (called also chicken pox and sore head), besides dosing them by dissolving Epsom Salts in the water for them to drink—a dessertspoonful to a quart of water—to clear their blood, is Tincture of Iodine, enough of which can be bought from any chemist for 3d. to serve a season. It should be dabbed on to the eruptions

morning and evening with a feather or camel's hair brush, and in three days, at furthest, the eruptions will fall off leaving no scar or mark.

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WHEN fowls or chickens look droopy, put Epsom Salts in their water at once as a safeguard against an epidemic. Then examine the chickens for lice; if these are not found then feel the crops. It is a bad habit of many to let little chicks pick up whole corn grains, which remain in the crops, and kill them through indigestion. If the crops are bound tight, put a little coconut oil over their throats (quantity, according to size of chicken—a few drops for a young chicken) and work the crops gently with the fingers. Repeat six hours after, and the hard stuff will generally pass away.

RATS.

JUST six weeks ago I was startled by the discovery that rats had commenced the destruction of my young Castilloa trees. It seemed, at first, hard to believe, and I mentioned the matter to two only of my friends interested in rubber cultivation. The destructive creatures, not only cut down entirely many young plants, ranging up to a height of two feet, but gnawed off the bark from the base of the stems of trees twelve feet high.

Curiously enough the last number of the *World's Work* magazine gave prominence to the same complaint from different parts of the world. Notwithstanding the fact that my trappers bring in hundreds of rats per week, and unknown numbers must fall victims to the poison laid in all directions, the destruction of cocoa, cocoanuts, etc., continues with apparently little abatement. Would it not be a useful point for the Agricultural Instructors to impress on people the urgent need of combined effort to check the numbers of these vermin. Here am I attempting this task single-handed in the heart of a large community. As the progeny of a single pair of rats is said, on good authority, to number eight hundred in one year, it shows the futility of isolated efforts. People speak feelingly about prædial larceny, and with good reason. I know by hard experience what it means. But I venture the assertion here that, taken as a whole, the value of stolen growing produce, all over the Island, does not equal 20 per cent. of the loss occasioned by the activities of "brer rat" in fields, in stores, in warehouses, and wharves.—A. N. DIXON, New Ground, Lime Hall.

[We are very glad to have this note from Mr. Dixon, who is one of the largest and most careful of cocoa growers in the Island as it serves to help us on in our warfare against the greatest and most destructive pest in the Island. We wrote on the subject in August JOURNAL, 1907, page 138, and again, in October, 1907, page 242, while the Board has been discussing the merits of various makes of rat virus, and experimenting with them. The Island Chemist is

now engaged in experiments, which will, we hope, result in the production of a rat virus, which will stand heat, be cheap to use, and yet be effective. Meanwhile every one should use every effort to kill rats.—ED.]

MANICOPA RUBBER (JEQUIE).

THE Manicoba, which we are dealing with here, is quite different from the species, relative to which an article appeared in the January number of the *Bulletin of Agriculture*, under the heading of "Ceara or Manicoba Rubber." Ceara and Manicoba are two distinct species, although belonging to the same family, but the latter is, without doubt, a superior rubber yielder. Mr. Robert Thomson, well known here, was deputed to investigate this species by an English syndicate a few months ago, and penetrated the interior of the province of Bahia, Brazil, for the purpose of securing exact information about it. He has furnished us with some information on the subject, which, we hope to follow up more fully later on. We tried to get some of the seed, which he sent to Kew, but they had all been sent out to the East, but we hope to get a quantity direct from Brazil.

Mr. Thomson says: "As far as I am aware this species has not been botanically described. Anyhow, it is a species of *Manihot*, the genus to which cassava belongs, and this rubber has been known to commerce only a few years. I found it growing wild throughout hundreds of miles of the province of Bahia, Brazil, in a forest region of somewhat stunted growth, stunted by reason of the excessive droughts characteristic of the district, as well as by the peculiar soil thereof, of which I can show you a sample I collected on the spot.

"I must here tell you that I have furnished His Excellency the Governor with a report on this Rubber Zone.

"Numerous attempts are now being made to cultivate this Manicoba tree in its native habitat but very little real progress has been made in this direction. In this connection I may say that there are certain dry parts of Jamaica whereon, doubtless, it can be successfully cultivated, provided the all-important condition of soil is suitable. This I have described to you, and you will, no doubt, be able to tell what parts of the Island may be suitable for its growth.

"As you are aware, *Hevea braziliensis* is the species being cultivated in the great plantations of the East—hundreds of thousands of acres, and this practically to the exclusion of other species. This "Para Rubber," under cultivation, has been a wonderful success as we all know. But in studying the literature of the subject up to date, it seems clear that the planters are somewhat perplexed as to the probable behaviour of this rubber tree. I allude to the fact that this great tree, long years before it attains to its natural dimensions, is now being subjected to cultural treatment that is probably not conducive to its wonted luxuriance of growth; this with the view of

securing early returns which the planter demands. He wants his cropping period to begin when the plants are hardly half-developed, in six or seven years. It is, therefore, not improbable that, eventually, the early cropping period may be postponed considerably, if it is found that it is interfering with the long life of the tree. Of course, this tree, in this case, would, doubtless, respond to its greatly enhanced powers of development, and planters, in the end, gain by waiting. Their anxiety to tap early has, no doubt, been to take advantage of the high prices of rubber prevailing lately. It is quite different with the species of *Manicoba* under review. It is essentially a small tree. Comparatively speaking, in five years' time, its maturation may be said to be on parallel lines with its great rival in a dozen years, or even more. This is obviously important, because we have a plant, whose cropping period is inaugurated many years before the other species is at its best. Then, remember, you can plant from six to ten times more plants to the acre of this plant I am writing about. Again, in all my experience of tropical planting, I have never encountered a plant whose functions are more amenable to rough and ready treatment. It even surpasses its congener, cassava, in this respect. I need only add that the latex coagulates with great facility, and that the quality of the rubber is splendid."

[We note that *Manicoba* rubber has lately been designated botanically *Manihot dichotoma* by Herr Ule, a German botanist, while *Cereia* is *Manihot glaziovii*.—Ed.]

COMMENTS.

RICE SEED.—There has been some inquiry for this, and we have some on hand, in small quantities, at 3d. per quart; large quantities cheaper.

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SUGAR.—Too much sugar is entering Canada, via New York, depriving Canadian ports, railroads, etc., of what should legitimately be theirs. There is every reason why this should be diverted. One substantial reason is that the freight to Montreal, via New York, is 2d. per 100 more than via Halifax, and the Inter-Colonial Railroad.

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SEED CORN.—The demand for selected seed corn is very large this year, and every one is eager to plant as early as possible. We are sorry, then, that the supply is late, but we hope to be able to satisfy the orders. There is so very little guinea corn to be got that only a few of the first orders can be supplied.

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SHOWS.—The Appleton show, held on 1st January, after paying all expenses, had a balance on right side of £2 15s. The receipts amounted to £61, and the expenses to £58 5s. This Society started in February, 1905; in April, 1906, they held a little show in which

they paid £4 in prizes ; in December, 1907, they paid £13, and at the show, held in January, 1908, £34 in prizes. We trust they will go on in the same ratio.

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POTATOES.—We must again make it plain that we cannot supply seed potatoes, as if we kept them constantly in stock. We only get them to order, and such orders must be, at least, six weeks to two months ahead of the date they are wanted for planting, as we must collect orders, and get a good consignment at one time to save handling expenses. Owing to frost, the consignment we expected in February was delayed in shipment to us. It will arrive about the 24th March.

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COTTON SEED.—We have not imported any cotton seed from St. Vincent for this season's planting, but have made arrangements to supply good, native Sea Island seed at 3d. per lb., post free, in small quantities. On large quantities, over 5 lbs., freight must be paid.

We have some Caravonica seed on hand, guaranteed to have been grown out of reach of any other variety.

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GOATS.—Owing to the number of inquiries about milch goats, correspondents asking us to write them "all about them," we shall publish an article on the subject in next JOURNAL.

Interest in the careful breeding of animals is steadily increasing, and if the humble, but useful, goat is improved in quality of mutton and quality of milk, which may very easily be done within a few years, it will be more thought of, and so kept better in his place, which is not roaming at large to the detriment of neighbours' crops.

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SHOWS TO BE HELD.—Mear's Pen, at Mear's Pen, North Clarendon, Easter Monday, 20th April ; Christiana, at Christiana, Tuesday, 21st April ; Hampstead, at Hampstead, St. Mary, Thursday, 23rd April ; Porus, at Porus, Thursday, 30th April ; St. Mary, at Ballard's Valley, Port Maria, 16th July ; Santa Cruz Mountains, at Malvern, 1st August ; Hanover, at Lucea, Monday, 3rd August. At Black River a Live Stock Show is under consideration. The shows at Newmarket, and at Malvern, will supply the opportunity for agricultural products.

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RATS.—We publish an article in this issue on this subject by Mr. A. N. Dixon, of Lime Hall, St. Ann, who is a large grower of cocoa. We have often called attention to the seriousness of this pest. Not only is the rat a serious pest here, but in every other part of the world it is the same, and the whole civilised world is getting alarmed, as it becomes more and more realised what a danger this pest is to the welfare of the human family, as well as to many kinds of smaller domestic stock. We have issued a letter to the various Branch Societies calling attention to this matter, asking

them to refer to the article in this JOURNAL, and to our notes on this subject in the August and October JOURNALS for 1907, and to hold discussions on the subject, so that each member may be impressed with the importance, indeed, the vital necessity, of using every effort to destroy rats. Some of the methods are referred to in the articles referred to. It should be a part of every householder's and landholder's daily operations to have traps set, and poison, too, carefully, in house, yard, and field every evening.

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ANTS.—We have been struck of late with the entire absence of definiteness about our knowledge of the ants of the Island. We are confident that there are some of them friends, on the whole, like some birds, and some other insects—the ladybird for instance—to the planter, and we are also sure that some are bad pests. And now we have come to the stage that we are arguing about them, and out of the debates will surely come some more specific knowledge. One of the difficulties is vagueness in names of different kinds; for instance, two, and, perhaps, three, are indifferently called “black ants,” yet, apparently, they have very different habits, and one, at least, is a friend of the planter, and the other, some say, is a bad pest, yet, by others, is referred to as the black ant, which is the friend.

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RUBBER.—We have received a prospectus of the first International Rubber Exhibition ever held in Europe. It is to be held in London in September of this year, and, we have no doubt, the enterprise will be taken up most enthusiastically by the rubber trade, and all rubber-producing countries.

The Ceylon Rubber Exhibition, though confined pretty much to exhibits from Ceylon and Malaya, together with some representation from Southern India, was a great success, and much wisdom in rubber growing, rubber machinery, rubber preparation, and rubber packing and shipping was elucidated.

The matter of Jamaica being represented will be put before the Board of Management at the next meeting. We cannot be represented on a large scale, but we shall, we think, be able to send some exhibits.

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PRÆDIAL LARCENY.—Now that the various local Agricultural Societies have discussed this subject, and their opinions have been published, we can see that the opinion of the small settlers, who represent three-fourths of their membership, and who are the people most directly concerned, are very strong, and very decided. What we want local Agricultural Societies now to consider is some practical scheme of helping on anything the Government may do. Unless every honest cultivator makes up his mind that he, individually, will do everything in his power to prevent thieving, and to catch a thief and get him punished, legislation cannot do everything. In every

locality there are good, honest, industrious cultivators, and they should connect themselves with an Agricultural Society, if they are not already members of one, and they should band themselves together as a vigilance committee, determined to be courageous and really vigilant. Each Branch Society should now discuss this aspect of the matter. Members should see that their district constable does his duty, and help him to do so. If he is incompetent, report him as a committee or as a society. Members of vigilance committees must not be afraid to act, but have confidence in each other. If all this is done, prædial larceny will soon not be the incubus to honest effort it is now.

BRANCH NOTES.

St. Margaret's Bay.—A meeting of this Branch was held on Saturday, the 15th February, to discuss the matter of prædial larceny. After a long discussion, the meeting finally passed a resolution embodying suggestions as follows:—(a) "As regards the prevalence of prædial larceny now, as compared with other years, that prædial larceny is on the increase, and demands prompt action. (b) Whether the laws should be so simplified that thieves found stealing crops (or any other goods) could be dealt with more expeditiously and inexpensively than at present, that local magistrates should be appointed in every district, or nearest town, to deal with cases as they occur, from time to time, as promptly as is compatible with the nature of the case, and for every thief convicted, the sufferer should receive some compensation. (c) How such thieves should be dealt with, and what punishment should be meted out to them,—that habitual criminals be considered incapables, and to be confined for life in prisons, or some institution provided for that purpose. That a committee be appointed by the Government to investigate the matter, and decide on some workable arrangement, having in view the moral and intellectual training of criminals, and to create a more favourable economic condition than now obtains. That flogging the thief in a public place in the district or town where the theft is committed, and imprisonment in their own town should be the punishment." Messrs. J. S. Williams, Albert Roper, J. D. Brown, and Alfred Roper declined to vote.

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Port Maria.—A meeting of the Port Maria Branch of the Agricultural Society was held at the Town Hall on Thursday, the 23rd January, 1908. There were present: Hon. R. P. Simmonds, in the chair, Messrs. J. A. Benjamin, T. J. Cawley, L. Clarke, L. B. Melville, H. J. Dakers, P. McLaughlin, E. G. Meikle, S. M. Walker, Rev. E. Mair, E. B. James, and several visitors. The minutes of the last meeting were read and confirmed. The Hon. R. P. Simmonds then addressed the meeting, and said he wished to make it known that he, with the consent of the other Trustees, had given to the Prize Holdings Scheme for this parish the sum of £20 5s. for the purpose of augmenting the prizes, out of the £70 odd they held in trust from the old Jubilee fund. Mr. Melville objected, saying that the money belonged to the public, and was held for show purposes, and should not be used otherwise. Mr. Simmonds explained that the amount was handed over to him by the former Trustees, with the understanding it was to be used for agricultural purposes, and he held that the Prize Holdings Scheme was agricultural, and he was, therefore, within bounds in doing what he did, and he notified the public, through the Branch, of what he had done. Mr. Benjamin moved, Mr. Cawley seconded, and was carried, one dissenting, "That the Branch had no power over the moneys from the St. Mary agricultural shows, or the amount handed to

the Trustees from the local exhibitions." Notice for dissolving the Branch was read, and the matter postponed for further consideration. Mr. Benjamin moved, and Mr. Rutty seconded, "That a public meeting be held on the 6th February, to appoint officers for the carrying out of the proposed show, and that the Secretary send out circulars inviting the gentry to attend." Carried unanimously. The Secretary read letter from Mr. Barclay asking for the views of the Branch on prædial larceny. The meeting instructed the Secretary to reply as follows:—(1) That prædial larceny was greatly on the increase, and that means should be adopted for the suppression of same. (2) That the laws should be made so as to throw onus of proof on suspected parties, and their convictions be more expeditious and inexpensive. (3) That thieves, convicted a second time, be publicly flogged, and made to work on the public roads in and around the districts where caught, and that shorter and more vigorous confinement be adopted. Mr. Simmonds thought that more district constables, and men of a better class, were required, and that they should be more regularly paid. The meeting then adjourned.—E. W. BARTLETT, Secretary.

[This Society has been dissolved, but the St. Mary show funds are held separately from the funds of the Branch, and the show will be held on the 16th July.—Ed.]

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Porus.—The regular monthly meeting of the Porus Branch of the Jamaica Agricultural Society was held in the Church of England school-room, on Monday, the 3rd February, 1908. At roll call there was a good turn out of members, which included Mr. J. T. Palache, Instructor. The minutes of last meeting were read and confirmed. Correspondence from the Instructor, Mr. J. T. Palache, re the prædial larceny evil was read. The business of the evening was curtailed so as to give place for the discussion on this subject. The Instructor, Mr. J. T. Palache, opened the subject for the consideration of what could be done, and what steps could be taken to put a check to this evil. He further stated that, in going through the various Districts, it was piercing to hear the wail of prædial larceny, and he did not know of anything that was of greater importance. He thought it a great drag on agriculture in the island, and that there was great danger in the evil, and that the reasons for putting down an evil of this kind were manifold. First, there are some people that do not work. Second, the state of the social relationship in many homes, and he thought illegitimacy had plenty to do with it. Third, the mother of children of many fathers. Fourth, we want the means to cultivate our holdings in a better form. The mode of punishing the thief was too cumbersome; the law should be simplified, and, when a thief is captured, he should be taken to the nearest magistrate to be dealt with, and, for the second offence, he should be taken before the Resident Magistrate and flogging ordered. He spoke of the Government and the Revenue Law, that, in cases of rum stealing, the onus of proving how he got it rests on the accused. That this provision of the Law should be applied to the prædial thief; if he is found in a direction where he did not have a ground, he should be made to prove his innocence. That His Excellency the Governor be asked to put in force the Prædial Larceny Law, 29 of 1897, as a remedy. That prædial thieves are children of parents of the lower classes, and the Agricultural Society owed a great debt of gratitude to those that are educated. Prædial larceny was a disgrace to the island. After the Instructor had finished his address, a lengthy discussion followed, several gentlemen present taking part. Some thought that neither the flogging of thieves nor putting them in stocks would stop the evil. The Government finding work for the people, and increasing the age limit in school, or the establishment of continuation schools, would be much better. Most of the children leaving school have nothing special to do at home, and, consequently, become mischievous. The meeting was brought to a close by singing the National Anthem and prayer.—C. ROWLAND, Secretary.

Stewart Town.—The monthly meeting of the Stewart Town Branch was held in the Baptist Chapel on Thursday evening, February 27. The following members were present: Messrs. John Stockhausen, Charles McFarlane, Edwin Brown, John D. Brown, R. H. Brissett, A. Norman Bernard, William Cunningham, Joseph Hall, Hezekiah McFarlane, Richard Hall, Thomas Moreland, Uriah Roper, James Johnson, James Campbell, W. N. Dougal, William Gallimore, and the Secretary. Mr. E. Arnett (Agricultural Instructor) and several visitors were also present. In the absence of the President, and Vice-President, Mr. Stockhausen was asked to preside. After the reading and confirmation of the minutes of the last meeting, the first item on the agenda—the report of the committee appointed to make arrangements for acquiring the acre of land for the growing of the cotton—was attended to. The committee reported that they had visited the spot, and considered it suitable. It was agreed that possession be taken of it on the 2nd March. Arrangements were then made for commencing the preparation of it for planting on Monday, March 23. On the suggestion of Mr. Arnett, it was considered advisable that the seeds be not planted until the second week of April, just in time for the expected season rains of May. The Secretary was instructed to write to Mr. Barclay, Secretary of the Jamaica Agricultural Society, respectfully asking him to send a sufficient quantity of the very best cotton seeds to plant out one acre. Mr. Arnett, the local Instructor, has promised to give careful attention to the experimental plot. The allotment of shares in the company was then disposed of. Each share values 2s. The limited capital is £5. If the whole amount is not taken on the first allotment then the shares over will be allotted to those shareholders desiring more than one share as a second allotment. Twenty-five of the members have already taken shares. Messrs. John Stockhausen, Chas. McFarlane, W. N. Dougal, and Edwin Brown were appointed a committee to supervise the cotton-growing experiment. The proposed Penny Bank, under the auspices of the Branch, was next considered, and, on the motion of Mr. Arnett, seconded by Mr. R. H. Brissett, it was agreed that a public meeting be held on Thursday evening, March 19, when addresses on "Thrift" be delivered, and the bank be formerly opened. The following members were elected as officers of the Penny Bank:—The Hon. and Rev. W. M. Webb (President), Mr. Josiah Johnson (Secretary), Mr. Chas. McFarlane, A. Norman Bernard, and W. N. Dougal (Joint Treasurers). Deposits to be lodged in the Government Savings Bank from time to time. The Treasurers are empowered, however, to keep in hand a sum not exceeding £3 to meet urgent calls of depositors to withdraw small sums. The Secretary brought up the matter of the jippi-jappa industry, and expressed the opinion that it would be a good thing if the Branch were to take it up, as it would afford employment to many of the young women in the district. Relative to its cultivation, Mr. Arnett did not think this locality was specially adapted to the growth of the plant, although there might be a few spots where it would grow. However, if any members wished to try its cultivation, they could unite, and so, at little expense to each, procure one hundred plants from the Hope Gardens. To buy the straw, and to employ a person to teach how to plait it, would be an expensive business, and he did not think the Branch was in a position to undertake that matter as yet. On the motion of Mr. Stockhausen, seconded by Mr. Charles McFarlane, a hearty vote of thanks was accorded Mr. Arnett for taking the journey to Stewart Town that evening in the interests of the Branch Society. Mr. Arnett replied stating that it was not only his duty, but his pleasure to render any help to the Branch. The meeting then closed.

—J. JOHNSON, Hon. Secretary.

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Pedro.—At a special meeting, held last month, to consider the prædial larceny question, the following pronouncements were made:—(1) The

thieves should be made to work in their prison clothes in the districts where the thefts have been committed. (2) That the person robbed should be compensated ten times the value of the goods stolen. (3) The fathers of illegitimate children should be compelled, if possible, to care their children. (4) That children be kept in elementary schools till they reach the age of 15 years. (5) That the crown lands be sold at cheaper rate.—W. J. FRANCIS, Secretary.

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St. John's.—A special meeting of this Branch came off on Saturday evening, the 8th February, at Kitson Town schoolroom, at 4 o'clock, Mr. R. B. Farquharson, President, in the chair. The Secretary read a letter from the parent Society relative to prædial larceny. The chairman explained the reason for the meeting, and asked all present (non-members and members) to give their opinion on the subject. The first question submitted for discussion was, "What is the cause of the increase of prædial larceny?" Mr. Hendricks led off the debate, and contended that idleness and laziness were the principal causes of prædial larceny. Mr. Banton said ignorance was one of the causes, for after the earthquakes and drought of last year, many of the people simply listened to fanatics, and ceased working altogether. Poverty was also responsible for the increase, for, after the hurricane, many people stole. It seemed that after every great disaster, which destroyed property, many people resort to stealing. In the warm discussion that followed, Messrs. Josephs, Richards, Gonzales, and Burrell concurred with Mr. Hendricks' remarks, whilst Messrs. Daley and Wilson contended that ignorance and poverty were responsible for this evil. The President summed up. All, subsequently, agreed that want of employment was one of the main causes. The next question was, "What should be done to remedy this evil." All were of opinion that the Government should utilise a part, or a portion, of the surplus by establishing factories in suitable districts, where the unemployed could be employed. The laws should be simplified, and no bail should be given to the thief. He should be tried as quick as possible. The person who catches a thief should give all information to the police, and should only appear on the day of trial. More district constables should be appointed with an increase of pay. They should also patrol at nights. The members present objected to flogging, and the use of the stocks. The following resolution was unanimously carried:—"Knowing that prædial larceny has increased considerably, and is still on the increase, by means of which many agriculturists are being disheartened, and knowing that police supervision will, to a certain extent, ameliorate the evil, resolved that the Inspector of Police for St. Catherine be respectfully asked to appoint two more district constables for this district, viz., at Byles and Old Road respectively, as it is impossible for one district constable to cope with the gravity of the situation. (2) This Society beg to say that the above mentioned villages had district constables some time ago.—S. A. BANTON, Honorary Secretary.

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St. John's.—A severe storm, accompanied by rain and hail, swept furiously over this district—Kitson Town—on Monday, the 2nd inst. I am unable to inform you of the amount of damage done, or as to the extent of the devastation at present, as far as cultivation is concerned, still, in the neighbourhood, much damage is done to cultivation—cassava, bananas, trees of various kinds, are either lopped or rooted up. The path over which the wind travelled was not more than two or three miles wide. Had it lasted a few minutes longer, Kitson Town school chapel, as well as the adjoining buildings, would have been levelled to the ground. Much damage is done to these buildings. Some trees fell across the public road, which were quickly cut and removed. The storm seemed to travel from the north-east. Places only two miles from here did not feel its effects. I am of opinion that it is local. The hurricane of 1903 did not do as much

damage to these parts as this storm. School work, which is suspended, will be resumed to-morrow (March 4).—S. A. BANTON, Hon. Secretary.

[This was, probably, a whirlwind, which, though unusual here, does sometimes happen.—Ed.]

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Springfield.—The annual meeting of the Springfield Agricultural Society came off on the 31st January, 1908. Present: J. Jacob Irving, Esq., in the chair, Mr. D. Adolphus Smart (Secretary), Mr. Edward Perkins (Assistant Secretary), and Messrs. J. Wallace, A. J. McLaughlan, W. McGhie, S. Leech, R. Clarke, B. B. Morris, and D. Henry. The meeting then proceeded to elect officers to serve for 1908, after closing business for the year now ended. They are as follows:—Rev. J. A. Jones (President), Messrs. J. J. Irving, D. Henry (Vice Presidents), Mr. D. Adolphus Smart (Secretary), Messrs. Edward Perkins and P. H. Tharpe (Assistant Secretaries). These officers, with Messrs. J. Wallace, J. Shaw, S. Leech, W. T. Reid, A. J. McLaughlan, W. McGhie, A. Hall, and W. Leech, compose the Executive Committee. At this point Mr. Edward James was unanimously elected as a new member of the Society. The Treasurer gave a satisfactory account of the Society's funds for 1907. From it a kid, valuing five shillings, was bought by Mr. A. J. McLaughlan, to be kept by Mr. D. Adolphus Smart on the Society's behalf. The meeting was full of interest. The members spoke generally, expressing their views in various directions. A revised list of members was presented, which inspired those present to press onward, notwithstanding the many discouragements. There was a letter from Mr. Mennell, Agricultural Instructor, mentioning that St. James will be included in the Prize Holdings Competition for 1908, and that he would not be able to visit the district before March. A letter from the Secretary of the parent Society *re* prædial larceny was discussed at length. This letter, according to its three clauses, are herein answered according to the views of those present:—(1) There was much difference of opinion, but, after the vote was taken, it was finally decided that prædial larceny is on the increase. (2) The law need not be simplified, but there is a great need of more magistrates in the locality to facilitate those who may have to do with thieves, and to inflict, if possible, immediate punishment on the culprit. (3) Thieves, for first offences, should be whipped privately, and then set free. For second offence should be whipped publicly where the offence was committed, and be imprisoned for a term not exceeding six months. For a third offence, a thief should be isolated. Here the meeting adjourned, when all felt that a very profitable day was spent.—D. ADOLPHUS SMART, Secretary.

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Sav.-la-Mar.—In reply to your letter of the 7th January, asking me to call a meeting of this Branch to discuss the matter of prædial larceny, and to report to you on the subject, I beg to inform you that a special meeting was called for the 24th January. This meeting was unanimously agreed that prædial larceny in the Parish of Westmoreland was greatly on the increase, there having been two hundred and nine convictions recorded for the past six months. The meeting also strongly endorsed the remarks of the Hon. Geo. McGrath at the public meeting recently held in St. Catherine. No opinions were expressed with regard to the simplification of the laws relating to the subject. With reference to the punishments to be dealt out to prædial thieves, the discussion was summed up in the following resolutions:—Resolved, that, in the opinion of this special meeting of the Sav.-la-Mar Branch of the Jamaica Agricultural Society, prædial larceny being greatly on the increase, requires stringent means to be used to check it, and this Society, therefore, recommends: (1) That parties convicted of prædial larceny may be flogged for a first offence, in the discretion of the magistrate, and that the flogging should be inflicted in the marketplace of the district where the thief resides. (2) That the magistrate be empowered to order the thief, as an alternative

to imprisonment, to reimburse the person he has robbed by labour to threefold the amount of the damage proved to have been committed. Resolved, further, that this Society approves of the Government appointing a Commission of Enquiry into the subject.—A. W. LEVY, Secretary.

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Newmarket.—The annual meeting of the Newmarket Agricultural Society was held on the 28th ult. In the absence of the chairman, when time was called, Mr. Palache was voted to the chair, and he presided. The prædial larceny question was discussed at length, and several resolutions were passed, and these will be forwarded to the proper quarters in due course. After this discussion, matters directly affecting the Society were discussed. It was decided to leave several matters concerning the Society's boar in the hands of the Secretary to deal with. Subscriptions were then received, after which the election of officers took place. It resulted as follows:—C. E. Daley, Chairman; Rev. G. H. Lopp, Vice-Chairman; W. K. Sullivan, Treasurer; M. A. Harvey, Secretary. Mr. Shakespeare was Secretary for five years, and he asked to be excused from further service.—A. E. M. SHAKESPEARE.

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Glengoffe.—After two or three attempts rendered abortive by inclement weather, the Glengoffe Branch of the Jamaica Agricultural Society had a very profitable meeting—the best in its short history—on Thursday, the 20th February. The correspondence presented included letters from Mr. Cork *re* rubber plants, from Mr. Cradwick *re* other plants, from Mr. Barclay *re* prædial larceny. Certain members agreed to order 375 lbs. of St. Vincent yam plants through Mr. Palache. The ordering of the rubber plants was deferred for the next meeting, when Mr. Cradwick will be present. On the subject of prædial larceny all the members attested that the present state of affairs is worse than in the past, and expressed themselves, very freely and strongly, in condemnation of the prædial thief. It was finally decided to recommend that the Justice of the Peace should have power to summarily convict a thief to indemnify the person from whom he stole, and that for a second, and for future offences, he should be flogged in a public place. It was further felt that the law should be simplified. One member, some time ago, caught a thief, went fifteen miles to the J.P., appeared on the day of the trial, when the accused pleaded guilty, and left even the expense of paying the witness upon the plaintiff. The Secretary called attention to the fact that Glengoffe, St. Faith's, Mount Industry, Above Rocks, and other adjoining districts, with their thousands of inhabitants are without a J. P. The members expressed the wish that the attention of His Excellency the Governor be called to this fact. The President and Secretary were appointed to approach Mr. Alex. Carey, the local merchant, with the request that he allows the Society to recommend him for the position. With his ability and suitability we are fully satisfied. His ever-increasing business leaves him little time for other matters, but he has the welfare of the people at heart, and, it is hoped, he will not decline the honour. The seasons are remarkably fine, the planters are busy, the bananas are ushering their fruits into the light, and the outlook is bright.—A. P. HANSON, Secretary.

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Cambridge.—By request of Mr. Briscoe, Instructor of Agriculture, a special meeting of this Branch was convened on the 25th February. To this meeting the inhabitants of the surrounding districts were invited, as its chief object was to give an explanation of the scheme for awarding prizes on small holdings. The President briefly outlined the object, and read the rules of the Prize Holdings Scheme, and then called on Mr. Briscoe for his explanation. Mr. Briscoe began by pointing out the interest taken by the Government in the welfare of the people by encouraging well-kept

small holdings, and he specially emphasized the support of our present Governor to agriculture. He finished by calling attention to the benefits to be got by competing for a prize—among other things, improved houses, and improved sanitary conditions, which are highly essential to the moral advancement of a people. After some discussion on the indifference of the people in respect to enrolments as members, Mr. Briscoe suggested the holding of a local show. The suggestion being favourably received, arrangements will now be made for a show to be held about April of next year. Although when the time appointed for this meeting had come the attendance was so small that fears of its falling through were freely expressed, yet it turned out to be a very enthusiastic gathering. There were some ladies present, among whom were Mrs. Jones, Mrs. Child, Mrs. R. A. Taylor, Miss M. Dickens, Miss Rubie Robinson, and Miss E. Ellis. In the audience were A. Linton, Esq., J.P., and C. Anderson, Esq., Dental Surgeon. At the close of the meeting these two gentlemen had their names enrolled as members of the Branch.—R. A. CLARE, Secretary.

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Hanover.—The Hanover Branch of the Agricultural Society met at Lucea on Saturday, 15th February. The President, C. A. Cover, Esq., B.A., occupied the chair. There was a large attendance of members. Mr. Mennell, Travelling Instructor, was present. Office-bearers were chosen for the year 1908-09. Some new District Committees were appointed and Chairmen chosen. It was agreed that the quarterly meetings be held on the second Saturday, instead of the third, as at present. It was reported that classes to teach jippi-jappa hat-making were conducted at Riverside, Maryland, Ponside, Jericho, and Lucea. The Secretary and the Rev. Mr. Rothnie were appointed to see Messrs. E. Kerr & Co. on the subject of instructors for classes. The statement of account showed a balance of £3 13s. 4d. in hand, and £2 for show account. The Secretary stated that arrangements had been made for supplying Mr. Barclay with arrowroot. The list of prizetakers, in connection with the Holdings Competition, was read. The Secretary pointed out that the parent Society had refused to pay all the prizes recommended by the judges, because they were too many and of too small amount. He considered this was a mistake as what had to be done in Hanover was to encourage the small settlers to compete, and the more prizes, even of small amount, that were offered the better. He proposed that the Society should pay the extra prizes, but not the addition to what they had already offered to the fifteen prizetakers. This was unanimously agreed to. It was felt that, after the names had been published in the papers, it would not be fair to Mr. Mennell, as one of the judges, to have him explaining to the people why the money was not forthcoming. On the suggestion of Mr. Mennell, it was agreed to procure certificates to give to the fifteen who had taken prizes offered by the Society. The Secretary proposed that the prizes and certificates should be distributed through the Chairmen of the various districts. He thought this would lend interest to the competition. This was heartily agreed to. The matter of the show was taken up. It was agreed to hold a Show on the August public holiday, which is expected will be on Monday, the 3rd. A show committee was appointed to prepare a prize list and make arrangements. It was unanimously agreed to ask His Excellency the Governor to open the show. The circular on prædial larceny was read and opinions were invited. After a very long discussion, the President spoke on the subject, and summed up. Resolutions were adopted unanimously, with the exception of the one dealing with illegitimacy, when Mr. Melville dissented for reasons that he had stated. The President thanked the members for giving such close attention to the affairs of the Society.

RESOLUTIONS ON PRÆDIAL LARCENY.—Proceeded to deal with the circular on prædial larceny issued by the Jamaica Agricultural Society. After careful and prolonged deliberation, the following resolutions were adopted: (1) That, in the opinion of the Society, prædial larceny is worse than in

past years, owing, in great measure, to the long-continued drought. (2) That, in the opinion of the Society, the laws should be simplified, and made less expensive. (3) That, in the opinion of the Society, a farm, situated at a distance suitable for several parishes, should be established where prædial thieves could be confined until they pay for their maintenance, the cost of prosecution, and four times the value of the produce stolen. The last amount should be paid over to the person from whom the produce was stolen. (4) That, in the opinion of the Society, the Government should be requested to open infant schools in the country districts, and re-open schools that were closed at the time of retrenchment, where these are now required. (5) That, in the opinion of the Society, the Government should be requested to pass a law, making it compulsory on fathers of illegitimate children to register their names. (6) That, in the opinion of the Society, ministers and school teachers should be requested to bring the subject of prædial larceny before the people, with the view of creating a healthy public opinion regarding it. E. E. Melville, Esq., J.P., begged leave to enter his dissent from No. 5. Leave was granted, and his dissent was recorded. It was agreed to forward copies of these resolutions to His Excellency, the Jamaica Agricultural Society, and the newspapers. Adopted 15th February.—JOHN D. GARTSHORE, Hon. Secretary.

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Lamb's River Branch.—The annual general meeting of this Society was held in the schoolroom, Mount Hermon, on Friday, the 7th February, 1908. The minutes of the previous meeting were read and confirmed. The Acting Secretary reported that certain members of the jippi-jappa hat class were still in arrears with their fees, and Messrs. J. E. Lawrence and T. A. Malcolm were appointed to collect these fees before the meeting to be held in April. Some members of the class reported that they could not procure straw for hat-making. The Rev. T. B. Prentice reported that straw could be obtained from Rev. Mr. Purdy, and it was agreed that the Secretary should enquire of him as to cost and freight, and assist members to get straw, on receiving cost and expenses in advance. The Treasurer was asked to prepare an account of the jippi-jappa hat class, to be presented at the next meeting. The Rev. T. B. Prentice reported that the Society's fowls, three Plymouth Rock hens and one Indian Game rooster and hen, were in good health. Mrs. J. R. Williams and Mrs. T. B. Prentice, who acted as judges in the jippi-jappa hat competition, awarded the first prize to Miss A. Schliefer, and the second to Miss E. Ryman. The prizes were handed to them by the President. All the hats sent in for competition were considered worthy of commendation. The Treasurer's account for the quarter ending 31st December, 1907, showed a balance of 18s. 1½d. to the credit of the Society. The Secretary was asked to collect amount due to the Society for jippi-jappa plants before next meeting. It was agreed that prædial larceny, and the measures to be advocated for dealing with it, be discussed at the next meeting. The Rev. T. B. Prentice urged the members to endeavour to increase the membership of the Society. He reported that the Secretary of the Jamaica Agricultural Society had obtained twenty-one barrels of arrowroot starch from the neighbourhood. He also moved the following resolution, which was seconded by Mr. T. B. Lawrence, and carried unanimously:—"That the thanks of this Society be forwarded to the Government for having sanctioned the reconstruction of the road from Lamb's River to Cambridge, which has so long been urged by this Society, and would particularly offer its respectful thanks to His Excellency the Governor and the Colonial Secretary for their personal exertions in making inspections of the district. The following were re-elected officers for the ensuing year:—Mr. J. R. Williams, President; Rev. T. B. Prentice, Vice-President; Mr. T. B. Lawrence, Treasurer. Mr. U. L. Brown was elected Secretary in the place of Mr. P. A. Smellie, resigned. The next meeting was fixed for Friday, the 10th April.—U. L. BROWN, Secretary.

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BOARD OF MANAGEMENT.

AS the Legislative Council was sitting, and the important subject of "The Estimates" was under consideration, so that some of the members of the Board could not have attended, and the business in hand not being of a pressing enough nature to bring country members to town, due notice was given that the meeting of the Board, fixed for Thursday, 19th March, would not be held.

The next meeting of the Board will be on Thursday, 16th April, at 11.40 a.m., as usual.

AERATION OF DRINKING WATER.

WE are careless about many things important to our personal welfare in Jamaica, but too often terribly careless about our water supply. People, for instance, use tank water, the catchment for which is the roof—and they keep pigeons which spend nearly all their time on the roof; or the catchment is the barbecue—and pigs, hens, goats and servants, walk at liberty over these.

Others drink from ponds, where dirty clothes are washed. Others from springs, which are directly below places where dead people are buried; others from pools in little streams, all along which pigs are tethered.

But our largest means of supply, in at least three parishes, is by tanks, the catchments for which are the roof of the house and the barbecue. Care should be taken to keep these clean. But beyond that, the tanks should be kept covered with close wire mesh, or even board, else hundreds of things drop in—toads often, rats sometimes, hens occasionally, and so on. They are not seen, get drowned, and sink to pollute the water. Oh yes, a frog, although it can swim, can die in a tank; scores do.

But further, the water in a tank is hardly ever stirred, it is dull like a stagnant pool, and who that has been accustomed to the crisp freshness of running water, but dislikes the insipidity of tank water. Yet tank water can be pure and good, if carefully attended to, and is always soft, that is, not limy. To be thoroughly good, water

must be kept stirred, agitated, and so, aerated at intervals. This is a simple process, and does not require to be done from or to the bottom of the tank so as to stir up sediment. The water can be pumped up and run back. We give the following extract on the subject :—

“The aeration of water for drinking purposes is not new, but is becoming more general in various parts of the United States, where well and tank water are used.

“The aeration of water prevents stagnation, removes disagreeable odors arising from the decomposition of vegetable matter, and checks the growth of algae. There is disagreement as to how much oxidation of organic matter takes place, but it is well understood that aeration is of great benefit to water that is used for drinking. The greater the agitation of the water, and the greater the amount of air passed through it, the better the water. Sweet water, as found in nature, is never chemically pure, but contains more or less foreign matter easily determined by the chemist. Flowing springs and running brooks of this water are pure enough for all purposes, and safe enough for use, if not contaminated by the carelessness of man. But springs and brooks of pure water are not available to all. It is often necessary to confine water that is to be used for drinking purposes in ponds, reservoirs, cisterns, tanks, etc.; it then becomes stagnant and subject to many contaminating changes. This has been known for ages, and men have sought to better these conditions where they exist. Aeration is a means whereby a betterment is brought about, and there are many ways in which this aeration is accomplished. The old familiar chain pump is an example; the endless chain with its little bucket passed rapidly through the water, creating quite a disturbance and doing its work fairly well. The pumping of air into a cistern, the water of which has become foul, because of having stood for some time is another method; an air pump forces air to the bottom of the cistern whence it bubbles up through the water, oxidising and sweetening it. The air-lift pump is one of the simpler forms of pumps that performs this office and does it quite thoroughly.”

(See advertisement of Aerating Pumps in this issue.)

GOATS.

I.

THERE are three types of goats—those kept principally for milk, such as the Maltese, Anglo-Nubian and Swiss Toggenburg; those kept for mutton, as the common Jamaica goat, and those for the sake of their hair, as the Angora goats, but these last are also the best mutton-goats to be found. Angora goats belong originally to Asia Minor, but are kept to a large extent in the very dry veldt of South Africa, and also in parts of the United States where there are large stretches of dry land. The Agricultural Society introduced a pair of Angora Goats in 1895, but as no more were

brought here, the pure breed could not be kept up ; but there are at this date (1908), still a good many half-bred and quarter-bred Angora rams of a splendid mutton type doing service in the island. In a few years more, however, the blood will be so highly diluted that it will be lost.

While there are, here and there—wherever people have taken a little care of, and have had some pride in, their few goats—some good mutton types of the common goat to be seen, and a very few good milking nannies, still so little care, so little trouble, so little intelligence, have been directed by goat owners generally to improve, or even keep their stock from further degeneration, that most of our goats are poor specimens. In the country so much dependence is placed upon goat mutton as a “through the week” meat dish, that if the butcher could secure good, plump, tender, goat wethers, instead of scraggy and bony animals, it would add much to the pleasure of the table for everybody—perhaps most to the poor man.

II.

The nannies that would milk even a quart would be most useful, above all, to poor people, and the milk available for young children would help materially towards their good health and better physique. Among all classes there has been great inquiry lately for good milch goats—but these cannot be produced all of a sudden. Crossing the best nannies available with rams of breeds of world fame for milk, imported here, would be a short cut, *but only if the young kids resulting are fed and cared for.* The good milking qualities of the milch breeds mentioned do not occur by the chance of goats being kept in these countries. Indeed, Jamaica is far better suited for keeping goats easily than Switzerland, France or Great Britain. And it is not enough simply to cross any kind of nanny by a ram of a milch breed, let the kids run, and think the result must be a nanny yielding two quarts. This *may* happen sometimes, but if the nanny during gestation is fed well, and if tethered, shifted about to good feeding three times a day, fed a handful of corn or some kitchen vegetable scraps, and if the kids whenever they can feed get a little extra to their mother's milk—then there is nearly a certainty of the young nannies more than doubling their mother's yield. *There must be feed as well as breed.* If people do not care to take some trouble in mating, and feeding and caring generally, they should not expect any success.

III.

The first mentioned breeds have been bred for milk for many generations ; the best milking nannies have been kept and mated to selected rams from the best milking nannies. But without physique, that is, health and strength and vigour, the nannies could not produce milk. To secure this, the young rams have been separated from the females at weaning time, the choicest kept apart for breeding, and others castrated. The young rams have been kept until they are a year old before being allowed to serve ; they thus grow

steadily and strongly to a good size and fill out with good bone and plenty of vigour. The young nannies are kept until they have filled out and have stopped growing, which is from nine months to a year before being put to the ram. And all the time they are kept well fed. Now all this could have been done by any goat-keeper here, as well as in Switzerland, if the same trouble had been taken. The *very worst cause of degeneration* in size, in quality, in milking, is caused by rams running about and breeding young nannies, sometimes before they are six months old. It is essential that every goat-keeper have every young ram castrated at not later than three months old, except any special young ram out of a good nanny by a known good ram to be kept for serving. And every young ram kept for stud, should be kept strictly apart until he is at least nine months old, better still a year, so that he cannot get at young nannies until they are at least nine months old.

IV.

I have brought to the island three first-class rams of different milch breeds, but all guaranteed from dams yielding three to four quarts of milk (without their kids), and I have also brought three nannies to match, but all unrelated, and shortly there will be young half-bred rams and nannies for sale by these goats out of common nannies, and a few pure-bred (or at any rate having pure-bred sires and dams, although these are of different breeds) rams and nannies for sale.

The trustees of the late Trelawny Agricultural Society in Falmouth have a Toggenburg (Swiss) ram—a very large breed, and an Anglo-Nubian nanny—and already numerous progeny from the former, with a second dropping soon to arrive from the latter.

In the care of Mr. R. L. Young, Tobolski, Brown's Town, there is a very handsome long-pedigreed Anglo-Nubian ram, which is standing for service there, and first stood for service in St. Andrew, where there is already fine progeny, and an English nanny, but the latter has unfortunately not bred yet. The other English nanny has been sold and has dropped a ram kid, and the English ram is in my possession for sale, price, £5 5s.

In a few years, therefore, if care in breeding and feeding is taken, we should have plenty of good milch goats.

[The nanny at Falmouth has had her second dropping, two ram kids.]

THE SECRETARY.

PIGS.

MANY people scoff at the idea of caring for pigs that are confined in pens, like any other domestic animals. It does not pay to keep them clean, they say; yet pigs have ready sale at 2½d. and 3d. a pound, live weight; their food is not expensive, they are prolific breeders, and on the whole, make good profit. With every animal comfort means putting on flesh, discomfort means food wasted to

make up for it. This should appeal to some pig-owners. It pays to groom a horse and give it clean footing and room to move in, to tick a cow and give her a clean place to lie. Stables are kept fairly clean, the horse is not allowed to lie among its own droppings, and for the cow to lie among its own droppings day after day for weeks, would, we think, be considered bad practice, even with the most indifferent stock-owner.

But somehow it is thought that a pig is essentially a dirty animal. But even if it was, no animal in the whole of creation prefers to live among its own filth. That is a thing that every animal is careful to avoid. Yet it is supposed that a pig is different; and that it will thrive if put in a little pen and kept there among muck and stench all the time. That is against common sense, and is ignorant and cruel. Every day clean bedding, such as grass and bush, should be put in the pig pen, and part of the pen should be roofed over, even if it is only with branches and grass to give some shelter from sun and rain. It is better for the pen to be cleaned out at least weekly, and the manure used on the cultivation; but if thick bedding is put in every day, that will pass, and will provide a thick mass of manure in time.

We continue to advocate the use of movable pens, composed of four hurdles bound together, which are easily moved through a cultivation once or twice a week; thus the ground where the pen stood is then left well manured, while the pigs have constantly fresh earth to root in, which keeps them employed, finds some food, and keeps them always healthy.

Note that every pig that is confined needs to have a little salt and plenty of charcoal. These can be given in the food. These things are good for the pigs' digestion, and the charcoal prevents much of the sickness that pigs suffer from. Most illness in pigs arise from indigestion, through want of some rough stuff and green stuff to eat.

VEGETABLE SEEDS.

SOMETIMES by the same mail, and at any rate often in the same week, we receive letters reporting on vegetable seeds supplied through this office. We always like to hear of the results both in the animal and vegetable world that we have had to do with. If we do not hear of the bad results or of failures, and only hear of the successes, then people who have had the bad results will never find out exactly how they fail, and their failure will rankle in them to their detriment and ours. If seeds do badly and animals poorly, we require to know full particulars in order to guard against the same results again. As regards vegetable seeds, from the very fact that from the same seeds supplied at the same time, people have very different results, show that there are many factors to be accounted

for besides the seeds themselves. We have seen different results over dividing fences. We state some of the factors :—

1. **PROMPTITUDE**—The ground should have been thoroughly prepared, so that the seeds may be planted very soon after receiving them—many seeds do not keep if exposed to heat or by air. They should be kept in a tight box in a cool place.

2. The quality of the soil, if poor, vegetable seeds will not grow without manure, and vegetable beds must be made *thoroughly soft and fine*, then firmed down. Coarse, strawy manure, makes the soil too loose. Deep planting is a very common cause of failure, and some who think they have planted shallow, have really planted in soil so loose, that the first shower of rain has carried the seeds an inch down and smothered them. The beds after being made soft and fine, should be firmed down with a board or the back of a spade, then little drills made, the bottom of the drill made firm again, and the seeds merely covered, and the covering soil lightly firmed down.

3. Then weather has a great deal to do with success. The seeds must be shallow planted, but if dry weather follows for three days, this will take all the virtue out of the seeds; the beds must then be kept watered every day if rain does not come.

4. Ants carry away many vegetable seeds, more especially lettuce, which should never be planted in beds at all, but in boxes set up on posts, which must be tarred, or else rubbed with chalk, or pieces of rabbit fur, or sheep wool, dipped in castor oil, tied round the posts. Ants do not like to cross any of these things.

5. Very heavy rains are also destructive to vegetable seeds, washing them out or beating them into the soil so that they are spoiled. A light mulch guards against this. A light mulch in this connection means composed of a fine material; not coarse or heavy, else the tender young shoots will not be able to push through.

6. Cutworms—which are those small greyish caterpillars, that are found curled up in the soil at the roots of plants, and which some years are very common indeed—often cut off the young plants just as they start up from the soil. They can be kept off to some extent by applying wood ashes, but the only certain way of killing them, is by mixing a little Paris Green (which contains arsenic, and is a poison to be carefully used), same as used for caterpillars on cotton, mixing it with cornmeal and putting a little here and there among the vegetable bed as baits. The cutworms are fond of cornmeal, and will eat the baits and be poisoned. This bait would also poison fowls, but of course, fowls have no business in a garden.

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Hanover Branch reports that there are practically no results from the vegetable seeds supplied through the Parent Society, nearly all failed.

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Last vegetable seeds that you supplied me with did well, better than those I got elsewhere. Should you have any now on hand, please send list that I can select from.—(Sgd.) ST. LEGER TIVY.

Pedro, St. Ann.

INSTRUCTOR'S WORK IN CLARENDON.

We take the following from Mr. Hirst's report for January:—

“By request, I visited a cultivation at Park Hall, I found several coffee trees dead, a mango tree in the centre was infested with black ants. Coffee trees near by appeared perfectly healthy, and then are suddenly attacked by ants and plant lice. Die back sets in and the tree eventually dies. I sprayed trees with kerosine emulsion. Owner is to at once kill ants and destroy nest and eggs by a boy climbing the tree with a rope, then drawing up boiling water in a bucket and drenching the nests with it. The nests are then to be thrown to the ground where they will be broken up and again treated with boiling water.

“Coffee trees also had a few brown or black shield scale, have before noticed this scale associated with ants and plant lice.

“Visited the ‘barren’ cocoa tree pruned and sprayed by me on a former visit to another holding. This tree is now looking healthy and clean, and had profuse blossom (much of which looked doubtful if it would hold) and a few young pods. Red ants still on the tree and nothing had been done to destroy them.”

* * *

“MEARS PEN SHOW.—The barring by our prize list of Calabacillo cocoa is having its effect. Various rumours are about. Calabacillo was never before talked about—what is it? Which is the good and what is the bad? Which kind are we to show? It will all come right in the end, and people will realise just what Calabacillo is, and its true value. If our show prevents the further planting of this variety it will have done something worthy of the support it is necessary from the public.”

* * *

“PRÆDIAL LARCENY.—The meeting favoured flogging, but the Rev. Mr. Baker discountenanced it. Here, as on other occasions, I believe that flogging was advocated more for a spirit of reverence, than in the hope of remedy.”

* * *

[THIS is an important matter, whether the growing of Calabacillo cocoa should be entirely discouraged. Calabacillo is the cocoa of Grenada, and Grenada has done well with it. It grows in soils where neither Forastero, much less Criollo will grow, and the question is, whether in parts of the lowlands, climatically suitable, through old coffee pieces where the soil is not very good, it would not be better to grow Calabacillo cocoa than no cocoa at all. Yet in

Upper Clarendon, where the soils are so good as a rule, there are few parts but which would grow Forastero cocoa. So the opportunity taken by the Mears Pen Show Committee of debarring any Calabacillo cocoa from competing at the show, is one of the best ideas that we have known. Every settler and others in Upper Clarendon, who hear about this, will ask what is Calabacillo cocoa? And already the spread of much cocoa knowledge has been the result]

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[THAT is rather a good point Mr. Hirst makes with regard to prædial larceny—that the advocacy of flogging is done more out of a spirit of revenge than in the hope of its being a remedy. That may be; but we know this, that there are men who hardly ever get even a cob of corn stolen from their places, which, too, are open to the road, and this is why. They are diligent, industrious men, and happen to be strong and vigorous determined men, also ever on the alert, and when they catch a man or boy stealing in their fields, they do not stand on ceremony but thump the fellow well. This comparative immunity of men with the reputation of being rough when the occasion requires, is a very good argument that corporal punishment is effective.]

MANURING CACAO.—(COCOA OR CHOCOLATE.)

Manurial experiments have been carried out on cocoa trees in Dominica.

Considering the crop returns obtained during the past five years, the results show that the use of phosphates and potash on the first plot has increased the yield of dry cured cacao by an average of 219 lb. per acre per annum over the yield given by the unmanured plot. The use of the dried blood alone, primarily a nitrogenous manure, increased the return of cacao by 187 lb., while the combination of the two sets of manures, i.e., phosphates, potash and dried blood, resulted in an average yield of 374 lb. per acre per annum over and above that obtained from the unmanured plot. *The mulching gave the greatest gain of all, viz., 402 lb. in excess of the return from the unmanured plot.* Dr. Watts mentioned also that the cacao trees on the mulched plot are much finer and better developed than those on the other plots, and also that the soil of the mulched area is in exceptionally good physical condition. Although such good results have been obtained with mulching alone, Dr. Watts pointed out that in many cases it will be well to supplement mulching with moderate applications of nitrogen and phosphate. It is believed that potash is not urgently needed as a fertilizing constituent in Dominica, as the soils of the island are fairly well supplied.

The results obtained with the experiment plots in the country districts show that manures are beneficial and remunerative in the

establishment of young cacao, and that pen manure, when obtainable, is likely to give the best results.

Observation shows that good general results are likely to follow the intelligent use of the weeds growing in a cacao orchard. When the country experiment plots were first laid out in Dominica, attempts were made to keep weeds down thoroughly by a system of clean weeding. The soil showed signs of deterioration, but on altering the method of treatment, allowing the weeds to grow to a moderate height, and then cutlassing them down, or bedding them in with the fork, surprisingly good results followed.

According to Dr. Barret there is very little correct cultivation of cacao, as he understands it, in Trinidad. Great importance is attached by him to the danger of leaving black or brown, or otherwise diseased pods on the trees. These, it is claimed, breed spores by the million, any one of which was capable of carrying disease to the trees and in time killing them. Cement should not be used for filling holes as the wood leaves it, as ants, etc., get in and attack the wood. The best filler is clay and fibre, two parts of clay and one of soft, fine fibre ("harfleur" or cotton fibre) mixed with enough water, better still oil, and, preferably, resin oil, to make a nice paste, capable of being pressed into the hole of the tree. It is good to varnish the surface with a dressing of resin oil. The holes should be cleaned out carefully, and by an experienced hand, a 1 or 1½ inch gauge chisel being a good instrument to use. In clever hands the clearing out of the rotten wood could be done very quickly.

In Grenada the experiments in many cases were carried out on plots of about one acre in extent, chosen from land belonging to peasant proprietors, situated near the road. On these plots proprietors are shown how agricultural operations, such as forking, draining, and pruning should be carried out, and how manures should be applied. The results obtained were highly satisfactory. Two facts were specially apparent: (1) That on heavy red clay, as that met with in Grenada, the cacao responds quickly and liberally to applications of guano; (2) the pen manure, when applied in heavy dressings, and thoroughly and deeply forked in, is of considerable value. Manuring increased the crops during the four years under review as follows:

				Wet Cacao per plot
1903	No manure yielded	..	..	759 lb.
„	With manures „	..	..	1,063 to 1,281 „
1904	No manure „	..	..	548 „
„	With manures „	..	..	808 to 870 „
1905	No manure „	..	..	673 „
„	With manures „	..	..	814 to 1,179 „
1906	No manure „	..	..	748 „
„	With manures „	..	..	763 to 1,519 „

A table of the gains when using the proper manures (at any rate in Grenada) points out that in one case where manure of an unsuit-

able character was used, a loss £4. 4s. per acre was incurred, whilst in the best case a gain of £20 16s. was obtained. This shows a difference of £25 per acre, though using the right and the wrong sort of manures. It therefore behoves one to well study the question before making a start. The gains from mulching of grass and leaves are described as being phenomenal. The mulch is applied once a year, it is spread evenly over the surface, and allowed to incorporate itself with the soil by natural agencies. It is not buried or forked into the soil, and the thickness of the mulch, even when freshly applied, rarely exceeds an inch.

INSTRUCTOR'S WORK IN CLARENDON, ETC.

THE monthly reports of the Agricultural Instructors sometimes contain most interesting notes. Some of the Instructors are pegging away quietly, doing what may be called "ding dong" work, finding more to do than they can get through; and gradually making themselves useful to small cultivators. The calls on their services increase, showing appreciation. Upper Clarendon is an especially rich field for an Instructor to work in. We lately visited part of that district—regretting that it could only be a small part. The valley of the Rio Minho is well known as a most fertile stretch from end to end, but as you go up the river the rich soil is not confined to the river side, but you meet what we call the Central District conditions. The Central District lands are composed of three principal soils, all good and rich, (1) alluvial soil in the river bottom, rich, sandy loam; (2) a conglomerate of the type of the best Blue Mountain coffee soil, a mixture of rich loam and gravel, very easy to cultivate, hardly requiring drainage but easily subject to wash which has to be guarded against; and (3) the rich, retentive soil derived from the yellow limestone formation sometimes referred to as the "St. Mary clay." Though there are different kinds of clay in St. Mary, it is the yellow clay that is referred to. This is probably the richest—with a lasting richness—soil in Jamaica, and can grow every product well without any exception. It is exceedingly stiff to work, and wants to be roughly turned up months before planting to be weathered, when it crumbles down almost like sand. It is rich in phosphates. Its one great necessity for coffee and cocoa, especially, is drainage. It is rich banana soil, grows large, fine bunches with large fingers, and closely packed hands; grows a big coffee bean, and gives large yields, but the coffee trees will not last long without drainage—and tell it not in Gath—long top gives better results than short top coffee if the trees are planted wide enough, while in the red soil the reverse is the case. It is fine cocoa soil, but without drainage, the trees will often give trouble when three or four years old. A little red soil derived from the white limestone formation crops out here and there, and is not a naturally good soil for bananas and cocoa like the black soil. Into the

Rio Minho Valley a host of little rivers twisting through the hills around fall. Here and there by the river banks, fine, wide alluvial stretches occur. This nature of country continues right up the Minho Valley and up to the water shed of the Cave and Yankee Rivers, over to the Hector's River, and most of Upper Trelawny, where numerous little rivers run a few miles and sink, finally to reappear at Stewart Town Lake or in the waters of the Martha Brae River. Outside of St. Mary there is no larger or better stretch of land than is found between Upper Clarendon and Upper Trelawny, but being in different parishes, it comes under different instructors. The nature of Jamaica is such that in the different parishes running from the mountains in the centre to the sea, the Instructors have vastly different conditions of soil and climate. If it could be so arranged—but it cannot, owing to the difficulty of travelling—that one Instructor could have one prevailing set of conditions, and not have his time and attention, and study, dispersed over localities with rainfalls of 100, and altitudes of over 2,500 feet, down to seaside lands with a rainfall of 30, all requiring utterly different treatment, an Instructor could specialise more.

Jamaica is not a place that is already congested with population, not a place where land is scarce, not a place either where all the good land is occupied. But the lands by the seaboard, and near the towns, and by the railway, have naturally been long occupied, and where the lands are good, are cherished possessions, where land is poor, as unfortunately large stretches of the lands by the Montego Bay and Kingston railway are, nobody wants it much for cultivation.

But the same movement prevails here as has prevailed in other countries. People like to congregate in towns or near them; they think the country dull; they want to spend money which they have not yet got, and agriculture is too slow for them. They think there are "gold mines" abroad, in every line of work; they do not contemplate the risks and discomforts, the expenses of living and the amount of work they have to do for the apparent big wages. Still, if it is a spirit of enterprise and adventure that takes people away from their homes, it is a good spirit; it is the spirit that has made the Briton penetrate and occupy every part of the earth. Many Jamaicans have gone to do work in Cuba, and in Central America from Mexico down to Columbia; there is Jamaica labour; the lowlands of Costa Rica are Jamaican, Port Limon is a Jamaica town, in Panama there are thousands of Jamaicans, good, bad and indifferent, as elsewhere. Emigrants are not chosen and selected. There are hardy, bold and keen men, eager to work and earn money; there are also the riff-raff who go where there is a crowd going in the expectation of sponging and picking up a living easily; and there are all grades between. Whether it is a rush to new wheat fields, or gold diggings, or the digging of a canal, or any kind of new development, there will go bands of adventurers of the very best and the very worst class.

already been thoroughly wetted, will probably burn the foliage and bark too. The spray should be directed in the tree to get at the bark direct. If still found to burn the bark, then more lime-wash must be added to the mixture. Where trees can be scrubbed by hand, this is far more effective than spraying. At the same time it should be arranged if possible, to use this wash in November or December, when the fruit is usually off, and if some of the leaves or all, drop then, it does not matter, they are old leaves, and an entirely new spring will appear in a week. Of course, with those who are working for out of season fruit and have blossom at that time, or in groves where, as this year through uncertain weather, there are new shoots, blossoms, young and large fruit on trees at the same time, this work cannot be accomplished safely. We rather think this wash is meant more for countries where there is a cold winter, when fruit trees are leafless and dormant, but used here on citrus trees in November and December meant to fruit the following August to October, it will do good. At other times its application will require careful experiment. If the trees must be sprayed or washed with blossom on or fruit on, when the scale is virulent, then the wash should be tested on any useless orange tree first, to note its exact effects.

REASONS FOR USE OF CONDITION POWDERS.

AGAIN I desire to call attention to what I believe to be a fact, and that is, that we animal owners have all along been believing that animals need no seasoning for their food the same as we humans do, in order to ensure good digestion of it. They need it just as much ; especially is this true in our winter feeding. When animals are on pasture they find weeds, shrubs, barks, etc., and lick the earth for nitrates, and eat dead grass or rotten wood for charcoal. We know they do this, but few of us ever stop to reason out why. We say they do it for fun or something. But they don't ; they seek bitter weeds and dead grass and they lick the dirt to get substances to aid their digestion, just as we put salt and pepper on our beefsteak, or in other food we eat. They make food palatable that otherwise would not be. Hence it digests well. When our animals are kept in stables and we feed them with grass and corn, we think all should go well ; but all doesn't always go well. The horses will gnaw the manger and lick the sides of the stall, and the cattle and sheep will do the same. The swine will gnaw the boards off the pen or tear up the floor of the pen. Why is it they do it ? Simply to find something they need in the maintenance of their health and to insure good digestion.

A proper seasoning of human food stimulates secretion of the salivary glands and gastric juices of the stomach. Some need more, some less. Men use tobacco and women drink tea for the bitter tonic it contains. Thus we say animals that are kept in stables or

fed hay and corn need charcoal ; they need a bitter and they need a spice in their food even as much as we humans do. Therefore we are recommending it. I don't say it is the best that can be compounded, but try it and see if it doesn't work well for your stable horses. It is made by using as a base two pounds of linseed or cotton seed meal, mix two pounds of common salt, five ounces of powdered charcoal, five ounce of ground ginger, three ounces of powdered gentian to furnish the bitter. Now as to the quantity. That depends upon conditions. As a rule a tablespoonful in each feed will be sufficient ; yet if a horse craves more of it, give it more. Give this to your cows with meal or grain, and you will many times avoid cloying them. In some feeding it is not needed. Give them the charcoal and ashes to eat all they desire of. It is an acid stomach some have more than anything else.—*New York Tribune Farmer.*

SOME USES FOR BI-SULPHATE OF CARBON.

Five drachms for bots in horses ; kills bots for certain.

[Surely the bi-sulphate is not given pure ; it must be given in a pint of linseed oil.—ED.]

(2.) Got an insect in my ear that gave me the impression of an elephant romping on my tympanum. I just let the fumes into my ear, and in ten seconds all was well.

[Wish we had had it on hand once, when a cockroach got into our ear at night and cause us agony before he was killed by kerosene and oil and dug out.—ED.]

(3.) As a poison for rats it cannot be beaten. Put a few quarts of corn into a water tight cask, partly cover open top with a bag, leaving only a small opening for the rats to go in and feast. In a few days when they have got well on the feed, late in the evening put a pan with a couple of ounces in, next morning go and clear out your dead rats. The fumes do not seem to drive them out, but they dodge about I believe, to escape them, remaining in the barrel till overcome. I have cleared them out here. The rats enter through the top of the cask, covered with a corn bag, only a small opening being left for their entrance.

Stewart Castle, Duncans P. O.

C. T. DEWAR.

[WE are doubtful that they are not the same kind of rats that we have about—our lot are fiendishly cute. We resolved to use our old time trick on our rats. They had been gnawing through barrels of corn for a month. We then left half a barrel of corn in the same place, with the head off, inviting the rats to jump down and feast for a few days in peace ; and then one night replace the corn with water, only putting a covering of grain on the water. We thought the rats would then jump down as usual and get drowned. But actually what happened was that not a rat ever went in the

open barrel, not a grain of corn was touched, and actually too, not a rat ever touched any of the other barrels again, or were heard in the room. This remarkable fact can be vouched for. However, the bi-sulphate plan may work better.—Ed.

WOOD AND WATER SUPPLY.

[The following is adapted from a special issue of the Hawaiian "Forester and Agriculturist," dealing with the forests of Hawaii.]

A compilation and publication by the Federal forest authorities of statistics showing that the lumber forests of the United States will, at only the present rate of consumption, last only about thirty years more, and that the hardwood supply of the United States is already practically exhausted, with a hardwood famine, not only in prospect, but actually at hand.

What will happen when the forests fail?

In the first place, the business of lumbering will disappear. It is now the fourth greatest industry in the United States.

All forms of building industries will suffer with it, and the occupants of houses, offices, and stores must pay the added cost.

Mining will become vastly more expensive; and with the rise in the cost of mining there must follow a corresponding rise in the price of coal, iron and other minerals.

The railways, which have as yet failed entirely to develop a satisfactory substitute for the wooden tie (and must in the opinion of their best engineers, continue to fail) will be profoundly affected, and the cost of transportation will suffer a corresponding increase.

Water power for lighting, manufacturing and transportation, and the movement of freight and passengers by inland waterways, will be affected still more directly than the steam railways.

The cultivation of the soil, with or without irrigation, will be hampered by the increased cost of agricultural tools, fencing, and the wood needed for other purposes about a farm. Irrigated agriculture will suffer most of all for the destruction of the forest means the loss of the waters as surely as night follows day.

With the rise in the cost of producing food, the cost of food itself will rise. Commerce in general will necessarily be affected by the difficulties of the primary industries upon which it depends.

In a word, when the forests fail, the daily life of the average citizen will inevitably feel the pinch on every side. And the forests have already begun to fail, as the direct result of the suicidal policy of forest destruction which the people of the United States have allowed themselves to pursue.

The lavish manner in which the United States has consumed the products of its forests and the rapidity with which our timber

supply is melting away are wholly unappreciated by those who have never given the matter more than passing consideration.

The original stand of white pine in the North-east, is almost entirely cut out. The present stand in the North-eastern States is mainly spruce, second-growth white pine and hemlock.

It is well known that the days of white pine are rapidly passing, and it will in a few years cease to be a large factor in the timber supply of the United States.

Since 1895, 248 firms, representing an annual output of pine lumber of 4½ billion feet, have retired from business, due to the exhaustion of their timber supply. Plants representing approximately 500 million feet capacity which sawed in 1906 will not be operated in 1907.

One hundred and fifty years ago Germany found herself in very much the same condition as regards her forest resources as we are to-day in the United States—all accessible portions more or less culled, or in poor coppice, burnt over, and damaged by cattle, the valuable virgin timber mostly confined to distant and inaccessible locations.

Then came the vigorous organization of a settled policy of forest management, based upon the principle of sustained yield, or the cutting of the increment only, without lessening the wood capital. The results of this policy were that in Saxony the cut increased between the years 1820 and 1890 just 50 per cent., and up to 1904 has increased by another 5 per cent.

In Prussia, in 1830, the cut was 20 cubic feet per acre, and in 1865 increased to only 24 cubic feet. In 1890 it was 52, and in 1904 it had grown to 65 cubic feet. Forest management increased the average acre production in 75 years more than threefold.

Every acre of forest in Germany—State, municipal and private; good, bad and indifferent; productive and unproductive—now yields an average net profit of \$2.40 per acre annually, representing 5 per cent. on a valuation of \$50 per acre, and this is constantly improving.

It must not be overlooked that these results have come largely from non-agricultural lands, the sandy plains, the swamps, the rough mountain slopes, and from forests which were, we presume, mismanaged.

Can we expect to attain the same or similar results?

We ought to do much better, for we have the hundred years of experience of our friends across the water to draw on, and we can avoid many of the mistakes which they have naturally made and paid for.

There seems to be but one practicable solution, and that is to maintain permanently, under a proper system of forestry, a sufficient area of hardwood land to produce by growth a large proportion of the hardwood timber which is required.

These statements about the forests of the United States are those of professional, salaried experts, with nothing to gain by exaggeration, and are based upon statistics made with all the exhaustive resources of the United States Treasury.

These statistics are brought right up to the year 1907, and bring home to us, as nothing that we have yet seen does, the fact that not only forest protection but forest reproduction is of vital import to every industry here in Jamaica.

We have for years been unthinkingly cutting off our forests for firewood ; devastating them with tenants ; carelessly allowing their destruction by fire, and paying practically no attention to reforestation ; while we have imported not only all kinds of both soft and hardwood, both manufactured and unmanufactured, for general domestic use, but at times we have imported even our railroad ties, though we have lately used native lumber, but soon there will be none available.

Within the year we have been brought up against the fact that not only have prices gone away up, but prices of lumber in general and hardwood in particular.

If prices are going to be prohibitory in the United States, where the material is produced, they are going to be more so here, where the added freight must be reckoned with.

What is the remedy ?

There is and can be only one remedy. It is the same here that it is in the United States, and the same there that it was in Europe when they faced the same condition one hundred years ago.

The remedy is to stop the unnecessary destruction of forests and immediately begin reforestation, both by protection of areas in the hands of the Government and the hands of the Administrator General, so that partly destroyed forests will return by natural means ; and by replanting.

This should be done both through the medium of private effort and public appropriation.

It lies within the power of every sugar plantation and every cattle pen in Jamaica, within the year, at an expense so small that it bears no comparison to the benefits to be derived, to plant along roadways, around house-lots, in gullies and rough waste land, and on steep hillsides, unsuitable for peasant agriculture, trees enough to, within the next ten years, supply a very large proportion, if not the whole of the fence posts, railroad ties, telephone poles and firewood and sundry materials needed for consumption in this Island.

The methods of propagation of tree seeds and of the young trees has been studied and we know how it can be done speedily and economically.

There is no dispute, and can be no dispute that a thick forest cover not only helps, but is absolutely essential to the maintenance of an even flow of water from a given water-producing area.

Further, we claim that a forest on a water producing area in this Island with its heavy rainfalls and short water-sheds, is absolutely essential to any economical flow of water at all.

The streams which furnish water for irrigation and other economic use, all rise in upland areas with water-sheds of from five or six to less than thirty miles in length.

It requires no scientific study or reasoning to demonstrate that water flowing upon an area of land averaging not over 12 to 15 miles in length and on a grade of from 5 to 50 per cent., will not hold water for more than a few hours after rainfall has ceased, unless there is not only a forest, but a thick jungle of ferns, moss and debris to prevent its rushing in a torrent to the sea.

The forest is not enough under such circumstances. There must be a subsidiary growth of small trees and shrubs ; under that a growth of ferns and creeping vines and in addition to that an undisturbed matting of leaves, sticks and moss, creating a mass of material so thick as to hamper and almost prevent the flow of water. Once a clearing is made sufficient for the water to wear a course for itself and the heavy torrential rains, with the steep grade, will cut innumerable water courses to the sea, denuding the land of soil and draining off the water supply.

It is our firm conviction, based upon fairly close observation, that the forest-growth on the water-producing sheds of Jamaica supplying dry wood and posts must be, as far as possible, absolutely closed to interference, either by man or beast, or the result will be, in spite of all effort to the contrary, a doubly re-acting disintegration of the forest, and diminution, and final, if perhaps slow, destruction of the area as an economic water-producing source.

Popular opinion may conceive that a forest reserve, means an area which is locked up and removed from profitable enterprise. As a matter of fact, in the case of water-producing forest it is a devoting of the land to the production of that which is of the most value to the people of the Island, viz., water, and secondarily, timber, which by and by, may be utilised judiciously, cutting only when fit as a well regulated logwood walk is cut.

In short, the most valuable crop which can be produced in a water-bearing forest, is water. The most valuable crop which can be produced in a non-water-producing forest, is timber. Whatever will most effectively accomplish these results in the respective cases, is in the public, as well as private interest, and should be done.

THREE things principally determine the quality of a man—the leading object which he proposes in life, the manner in which he sets about accomplishing it, and the effect which success or failure has upon him.

TWO COMMON PESTS.

Owing to the long drought, pests have been particularly plentiful this year ; the worst is probably the white scale on citrus trees, which has caused much loss in St. Ann especially ; but has also been common on lime trees in Trelawny and St Elizabeth. It was expected to be thrown off with the first heavy rains ; but St. Ann has had plenty of heavy rains and the white scale is still virulent.

Next, there have been caterpillars and cutworms—the former the large grubs which attack cassava, tobacco and tomatoes so much, and the latter, the small grey worms which lurk in the soil, and cut the young plants through. We give short articles on how to deal with both.

1. CUTWORMS.—There are few insects which cause more annoyance to the gardener than the dull-coloured caterpillars which eat off the young plants, notably potatoes, cabbages and tomatoes, just below the level of the ground when they are young. They are usually to be found in the soil close to the freshly destroyed plant, and can easily be recognized by the characteristic manner in which they curl themselves immediately they are disturbed. These worms are hatched from eggs laid by a greyish coloured night-flying moth, of which a number of different kinds occur here. The injury is done chiefly at night, when the caterpillars come to the surface and greedily attack, not only the stems, but also the leaves of the plants. Sometimes these pests are so plentiful that they attack the grass in the commons, and are curled up in twos and threes.

Remedies.—The pest is not nearly so difficult to control as most people suspect.

Green Baits.—If a quantity of succulent grass, or weeds, steeped in a mixture of arsenic (Paris green) and water, is scattered over the land at sunset, numbers will be poisoned in their nightly search for food.

Poisoned Bran.—The fact that the worms are particularly fond of bran has provided the most effective means of destroying them after the crop has been planted. A poisoned mash, containing one part by weight of arsenic or Paris green to every hundred of bran, is made in the following manner :—Moisten the bran with water to which enough sugar has been added to give a sweetish taste ; sprinkle the arsenic over the bran and stir it thoroughly. Do not add too much water. The mixture, when ready, should crumble easily, and if passed through the fingers should not stick to them ; scatter the bran among the plants which are being attacked and satisfactory results will be observed in the course of a few days. A correspondent to whom this remedy was recommended, wrote to ask whether there was any danger of poisoning stock or fowls. If the bran is strewn thickly enough to attract animals, there would undoubtedly be this danger.

2. CATERPILLARS (*heliethis armigera*).—The unusual prevalence of these voracious grubs this season, amongst tomatoes, cowpeas, cassava, sweet potatoes, and a number of other cultivated plants, and even guinea grass, has been reported to us. This moth, which is commonly known as the maize moth and cotton boll worm, has a world-wide distribution.

The larvæ, when full grown, measure from $1\frac{1}{4}$ inches to $1\frac{1}{2}$ inches in length, are of varying colours, from pale-green to dark brown, making them very difficult to identify. Yet, on closer observation, the same pattern is on all, no matter what may be the colour, the body being marked longitudinally with light and dark lines, and covered with black spots, from which soft hairs grow. The larvæ are voracious feeders, attacking the plants both day and night. There is practically no limit to the plants this pest will attack, feeding wherever the moths deposit their eggs. Of course they have a preference for food plants, and will leave less palatable ones, for the tomato, maize, cotton, peas, beans, seed vessels of all kinds of garden flowers. The larvæ, when mature, descend into the ground and form an oval cocoon of silk and earth interwoven, and change into a brown chrysallis, from which they emerge in from three to four weeks, according to temperature.

The moth is also of varying shades, but the most common colour of the front wings is pale brownish-yellow, with a faint greenish tint; the hind wings are somewhat paler than the front pair, becoming darker on the outer edges.

The female deposits her eggs upon the stalks and leaves of plants, from which the young larvæ hatch and immediately commence operations, crawling up the stems and eating the leaves, boring into the fruit, causing it to go rotten, also destroying the flower buds. It destroys the peas and beans by boring a hole through the pods and eating the seeds. Corn is also attacked in the same manner, the young corn forming in the cob being eaten out. Fruit trees are also sometimes attacked, the fruit being bored by the grubs and dropping off, but we have never known oranges or grapefruit ever being troubled.

Remedies.—*Spraying* their food with a poisonous mixture, such as Paris Green, is certain death to every caterpillar eating the leaves of the plants so sprayed. One ounce of Paris Green to 12 gallons of water. The addition of a little lime will neutralize the caustic property of the arsenic, a little glue or flour will ensure its adhesion to the leaves. The Paris Green should be first mixed into a paste and then added to the water. Or dusting with Paris Green and lime as is done for cotton, can be done on all plants afflicted, only such plants as are eaten like cabbages cannot be dusted when nearly fit; as a rule, they are however, attacked, when young.

Think of it. Out of debt every sixpence you get ahead is your own; you may look on it with unalloyed sensation of right to save it or spend it, to turn it in any fashion it is equal to. But in debt your money is not your own. It belongs to him to whom it is due, to him who patiently toiled for it—earned it.

THE RUBBER INDUSTRY.

Systematic rubber planting in Jamaica as an industry has only of late years begun on estates, but up till now there has been no systematic tapping of trees and keeping of statistics of yield, on which to base commercial calculations of the profitableness or otherwise of the business.

From the standpoint of a profitable industry there is a great hope in rubber, especially as, although the trees require good soil, they can be grown to advantage in many places, dry or wet, upland or lowland, or in patches. This business would not only be of value in creating a new profitable industry, but would incidentally assist in reforesting the more select lands.

Intelligent advice has been at our disposal, as to varieties to plant. Mr. Robert Thomson says Manicoba rubber for certain dry parts; Virgen rubber for certain select parts of the mountains; Castilloa and Para for moist lowlands, up to 1,800 feet, the latter may also grow up to 2,000 feet, but would require test.

BEES.

WE wrote on page 281, JOURNAL for 1907, about the necessity of supplying water to bees; and we repeat that as far as the elements of living are concerned, their requirements are the same as other live stock; they require food, water and protection; they require care in breeding and the same as larger domestic animals. We find an article in "Gleanings in Bee Culture" on "Water for Bees," how to prevent drowning, by Dr. C. C. Miller, a well known writer on bee matters. The article deals more with providing water for bees in the early northern spring when it is desirable that bees should not be obliged to fly long distances and then only get ice-cold water; water should be set in a sunny place for them. That does not apply here. But the point is that the bees require much water, and on getting it often have to waste time flying long distances in search of it; time that could be utilised gathering nectar if water was at hand in the same way as we provide ponds for cattle in our pastures, and then thousands of bees get drowned in getting the water. We pointed out that water should be set for the bees, and if ponds and tanks were near at hand for them, chips of wood should be put in for them to alight on to drink. We have taken the chief points from the article referred to, to explain these things:—

"I wonder what proportion of bee-keepers pay any attention to the matter of seeing that their bees have any chance for water except as they may find it for themselves. Certainly, water must at times be of the utmost importance, considering the number of bees that risk (and also the number that actually lose) their lives in obtaining water.

“Any sort of provision in a regular place will greatly help by saving a long journey and sometimes fruitless search. In addition to this, if provision be made against drowning, any reasonable bee ought to be satisfied.

“In many places bees can look out for themselves without making any long journey by visiting water-places of horses and cattle, also pumps, and these may be the watering-places and pumps of neighbors. Bees in such places are a great annoyance, sometimes starting hard feelings between neighbors. Generally, too, many bees are drowned in such places. To avoid this annoyance and loss, it is well worth while to have a special place where the bees may find water all summer long.

“But such a place should be provided before the bees have formed the habit of visiting a pump or horse trough. That habit once formed, the bees will not pay the slightest attention to a new place. They may, however, be enticed away to a new place, if it be only a few feet, or even a few rods distant. Cover up the pump or horse-trough with horse blankets or something else, so the bees can get no water, and set a vessel of water close as possible, next day move it just a little away, and each day thereafter move it a little more. After getting a little distance away, you can move it five or ten feet each day. Keep the old place covered up for a few days, and afterward keep water constantly at the new place, and there should be no more trouble.

“Whatever is used should hold a goodly supply of water; and then if one aims to fill it up when half-emptied, there is not much danger that it will be often entirely dry.

“I have used with a good deal of satisfaction a six gallon stove crock with a small armful of firewood put into it endwise, and water then thrown in. All the better to have the wood partly decayed.

“But the best thing I have ever tried is a tub, or half-barrel, with cork chips or cork dust thrown on the water. Put in all the chips you can without getting in so many that the bees can not reach the water. The bees are just as safe walking over it as on the ground; so far as I can see it is perfect, and I don't know how long it will last.”

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THE HONEY MARKET.—The late stringency in the money market has had a tendency to depress prices on nearly all commodities, including honey. Then, too, the approach of the holidays has had its effect. During Thanksgiving and Christmas the delicacies seem to be cranberry sauce, mince pie and turkey, while honey which has been on the table for months back seems to be relegated, for the time being, to the background. But this year there has been such a great scarcity, that in our opinion, the market will recover itself, and that we shall not see this year the usual slump in prices after January 1st. It is true that there is quite a little Colorado honey left in the eastern markets. This we believe, to a great extent, will be gone by the beginning of next year.

As indicative of scarcity of honey for manufacturing purposes it appears that the National Biscuit Co. is advertising for honey—something it has never done before—in fact, it did not have to. So taking it all in all, especially since the national pure-food law has gone into effect, we expect to see a firm market all of next season on all grades of honey for both comb and extracted. Even should there be a good year there will be no adulterated honeys to depress the market on pure goods as formerly. Never again do we expect to see honey go back to its old level.—*Gleanings in Bee Culture.*

POULTRY NOTES.

WE give a few letters from correspondents, which, with the replies, may furnish some useful hints generally :—

“ I have put a pure-bred black Orpington cock with twelve half-bred black Orpington pullets. These pullets are without exception the best Christmas layers I have known so far. Whether it was the warm Christmas season or the natural tendency of the birds, or both combined, I do not know. But for the first time for many years, we had plenty of eggs to sell at Christmas at 1s. 3d. a dozen. They are large bodied, sturdy looking pullets, but their eggs are not big as with the Minorcas, and the quality is as good as any bird not even excepting Indian Game for the table.”

[We have now recommended a Minorca cock to be used next year, on the three-quarter bred black Orpington pullets from the above breeding. If you find a breed or certain cross suit your conditions, stick to it ; but of course much depends upon the condition of the first cocks introduced—almost everything in fact.—Ed.]

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“ I have some cross-bred white Leghorn hens, that is, I used a pure-bred white Leghorn cock on common hens. The cross-bred pullets laid early, but are very small, and their eggs are small. They are of little use to eat. I would like to keep them as they are such good layers and very small eaters, but can I improve the size and the size of the eggs ?”

[We would recommend the use of a Plymouth Rock cock, as short in the leg and blocky shaped as you can get. A white Plymouth Rock would be better to keep the colour uniform. A sturdy white Wyandotte cock would be next best.—Ed.]

* *

“ I want good table fowls—eggs not so particularly. I have cross-bred fowls of some kind or another, a little Plymouth Rock, a little Game, a little Brahma, as I have used cross-bred cocks said to be of these breeds. I have not had a fresh rooster for two years. Just now my own fowls, I think, are about the worst I see anywhere—always scraggy and yet always greedy.”

[The breeds you mention are all right, but the cross bred cocks probably had reverted to common fowls, and then your casual in-breeding would ruin the best qualities of any fowl. Get a buff Orpington cock, and you will make a tremendous improvement in one season. And the year after get an Indian game cock, and your teeth will water at meal times.]—ED.

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“ I have some half-bred brown Leghorn fowls—I got the rooster through you. The hens are good layers, but all my fowls are very small. I am selling the Brown Leghorn rooster, and ask what kind I should use next to raise size without reducing egg-laying capacity. I have had no sickness among my chickens, I am glad to say.”

[If you get a short, broad buff-Orpington cockerel—not the leggy type—you will produce handsome, medium-sized birds, uniformly golden in colour, and good for table. The pullets will lay good sized eggs, slightly brown, but will set more than your half-bred Leghorns do.]—ED.]

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“ I lose most of my chickens nearly every year, and am thoroughly disgusted with poultry. I have had half-bred Plymouth Rocks, Orpingtons and Leghorns, but it is all the same. The chickens dwindle, look huddled up, and die.”

[Close breeding would produce the results described, but as you say you have changed your breeds, we presume you have had fresh blood, so your methods must clearly be at fault, and you would require to tell us how you care and feed your fowls. We expect you let the chickens feed among grown fowls, and the little things being hungry, pick up whole grains of corn and die of indigestion. Feed your chickens entirely separate from your other fowls. From the first week, feed coarse oatmeal four times a day, also a few white-headed duck ants, if you can get them, brown rice soaked in water for a night, in place of the oatmeal, for the second week, and then go on to ground corn. All the time provide clean, cool water. We have no trouble with sickness; rats and hawks are our enemies. Your breeds are all right, only every year get fresh blood. Breed does not matter much for your district—they are all good.]—ED.]

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LAYING COMPETITIONS.—In the great Australian laying competitions, one exhibitor after winning, or very nearly winning at his own State competition several times, has entered his birds, white Leghorns at all the competitions, and more than that, in January he tops them all. This is Mr. A. H. Padmore, of South Australia, with his white Leghorns.

The topmost score in the Western Australian competition for six pullets is 840 eggs for six months, but the six Indian Runner

ducks beat that with 1,004 eggs. And they did the same in the last competition.

The top South Australian score is 1158 for 9 months.

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The manager's report on the second month of the English Utility Poultry Clubs' four months' laying competition, states that the birds continue in perfect health, despite the bad weather. For the first fortnight there was fog every day, and sharp frosts on ten days ; then came warm soaking rains, alternating with sharp frosts, but there were three consecutive fine days, the first since the competition commenced. The fourth week was wet and boisterous, culminating on the 12th and 13th in heavy floods, when for the first time in ten years, the stream flowing through the field in which the birds are housed overflowed its banks. On the 14th there was a gale, when the birds that ventured out were often blown over. Out of the first eight weeks six have been foggy.

[Really three consecutive fine days in eight weeks. How fortunate ! No wonder the eggs laid for two months do not stand comparison with the Australian results.—ED.]

STOCK NOTES.

DRENCHING.—When drenching a sheep or goat it should be held between the legs of an assistant, the head raised just sufficiently high to allow the mixture to run to the back of the mouth. The operator stands at the right side of the animal, passes his left arm over the top of the animal's head to the left side, the second finger is then inserted under the roof of the mouth, the mouth of the bottle which is held in the right hand is then introduced into the mouth of the sheep, and the required quantity of the contents poured slowly in. A very useful bottle for the purpose is the small castor oil or olive oil bottle, as it has a tapering neck and no shoulder. Should the animal cough, which happens more particularly when turpentine mixtures are given, the head should be loosened immediately, as the mixture will descend into the lungs, instead of entering the stomach as is intended, and set up inflammation of these organs. For the same reason goats should not be drenched when they are bleating, and should be drenched while in a standing position. This may appear an unnecessary precaution, but we are convinced that too much care cannot be exercised when drenching animals, especially with some medicines, such as turpentine or Jeyes' mixtures. The practice of holding the sheep's or goat's head too high in the air and fixing the tongue, which we have frequently seen done, should be avoided.

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A GREAT host of men believe that they ought to know all about cows and that what they don't know is not worth knowing; because

they have been raised with cows all their life. But such is not the case. Both cows and poultry require more intelligence to win profit out of them than most farmers really believe, and just for that reason a large proportion of farmers are getting a little profit out of cows. If the average farmers were not content to go without a great many things for himself and family, work hard and live very plain, self-denial marking every day of his life, he would not make both ends meet, keeping the class of cows most of them do. There are good profits on the upper shelf, but they are only for upper shelf men who use a well trained judgment, combined with skill and good thinking, as well as hard work.—*Hoard's Dairyman*.

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MILKING RECORDS.—The milking records of the herds of Jersey, Shorthorn and Red polled cows kept by Lord Rothschild at Tring Park for the year ended September 28th last, have been published. Each breed is divided into three classes, the most important of which is that of cows that have been in the herd during the whole of the year. Of these, 18 Jerseys gave an average yield of 7,555 lbs. apiece; 10 lbs. equal a gallon. The highest yield was 10,666 lbs., and the lowest 4,969 lbs. There were 46 Shorthorns in the herd throughout the year, and their average yield works out at 6,787 lbs. The highest individual yield was 11,641 lbs. The average is reduced by several having been dry for a good part of the season. Of the Red Polled breed 40 cows were in the herd throughout the year, and their average is 6,571 lbs. per annum. Only one animal gave more than 10,000 lbs., but her record of 12,005 lbs. is the highest of the three breeds. A number of the Red Polled also were dry for several months.

There is no high or forcing feeding done in these herds, they are kept in the ordinary style in England, constitution first above everything; they are out in the field and getting grass alone, all summer.

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In the dairy form or types of cows as distinguished from the blocky or beef type, we have an open organization, composed of angles rather than squares—the wedge shape, flat bones, broad rump, well spread hocks, large udder, well placed teats, large digestive organs, deep chest, well placed neck, head carried well up, large expressive eyes, broad muzzle and large nostrils. The term “wedge shaped” has been misleading in its application to a thin front carried down too close to the front legs, leaving small room for heart and lungs, and consequently encroaching upon constitutional vitality.

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ST. LUCIA.—There are now at the station a mule, a cow, a young heifer, a calf, fourteen woolless sheep and lambs, thirty-four Belgian hares, twenty-six head of poultry, besides a number of young chickens. There is also an apiary of sixteen colonies of bees.

Eighteen Belgian hares were distributed for breeding purposes in the colony, and a pair of pedigree stock was imported from the United States, by the Imperial Commissioner of Agriculture, for the Agricultural School.

Fifty-eight head of poultry, ranging in age from four to thirteen months, and 110 pedigreed eggs were distributed. The poultry sent out were Leghorn, and a cross between Leghorn and Plymouth Rock. This cross makes quick-growing table birds, which are also good layers. Reports of good results have been received from several persons who obtained from the station. A new lot is being raised for distribution.

A Cyphers incubator was operated five times, and the average hatching results were 73·2 per cent. of the fertile eggs, the percentage ranging from 55·5 to 82·9.—*Report St. Lucia Botanic Station.*

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[THE keeping of stock, small and large, is an essential part of any Agricultural School.—ED.]

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AN importation of 2,000 Camembert cheese boxes—empty—went through the New York Customs House a few days ago. One duty was paid on the boxes and another on the printed labels, and then the boxes were hastened off to interior points in New York State to be filled with “Camembert” cheeses and to be sold as such.

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MILK.—Milk always absorbs any strong scent or flavour. Therefore, it should never be placed near such articles as onions, lemons, coffee, turpentine, tobacco, paraffin, or camphor. Milk which has stood for any time in a sick room, should not be drunk by the patient nor anyone else. But the worst flavour of all is the flavour of the dirty milking yard.

* * *

BECAUSE one cow will give 15,000 lbs. and another only 7,000 lbs. of milk in a year, is that a sign that the cow giving the most milk makes the most profit? It has nothing to do with it at all; what we want is economical production. The cow that will take a certain amount of feed and manufacture it into milk or butterfat at the least expense is the most profitable cow, and that is what the cow testing association determines for you.

We have to study dairying just as we would any other business proposition. We learn, when we study dairying, that the size of the cow cuts but little figure, so far as profit is concerned. If a small cow will produce more economically, if you want to get a larger volume of product, all you have to do is to get more small cows. If the large cow will produce more economically, all right.

COMMENTS.

MEDICINES FOR STOCK.—Being constantly made aware of the careless habit of using medicines for stock roughly, and of the

great lack of knowledge concerning the nature of the things that were being constantly used, we wrote a series of articles describing simply the various common medicaments in use, the exact quantities to use, and for what domestic animals. This information was much needed, we knew, but how much needed, we did not ourselves fully realise, until we interested ourselves so particularly in the subject after hearing many appalling tales. The other day a man appealed to us about a goat troubled with a "wasting" disease. Somebody had told him that we recommended "doses" of castor oil "for goats." He accordingly had given it "plenty"—that is, a pint bottle full every week—more than enough for a horse, and fully enough for a cow, especially as it was *home-made* oil, which is much more purgative in effect than imported, cold-drawn oil. The dose should have been a tablespoonful once a week.

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The next case was the amateur cow-keeper and rearer of calves, who had heard that a dose of tar was good for colds in calves, and he had given the calves *gas tar*. Now Stockholm tar is a fairly good specific for colds, given in a certain way—a teaspoonful mixed in a tablespoonful of sweet oil, or for sheep and goats, simply placed on the tongue, if nothing better is at hand. But every kind of medicine was within reach in this case, and there is nothing better for simple colds than Benjamin's "Jamaican Healing Oil," which is to be got in every small store. We therefore see need for re-publication in pamphlet form of our simple explanations and recommendations, if finances would allow of it. Knowledge of these details as regards common medicaments in use is much needed, especially for the smaller stock-keeper; it is our duty to impart such knowledge, and it can be done.

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COTTON.—The results from the cotton seed planted in August, September and October, would on the whole, be disappointing, if we did not take into account the abnormal dry weather we have had—the least rainfall and the most irregular in 10 years. The wonder is that any good cotton has been grown at all. Five years out of six, generally speaking, our weather in the past could be depended upon to be normal. Weather prophecies are vain things, so that we cannot prognosticate that there will be good cotton-growing weather, but we think the various results under the very worst of weather conditions fairly promising.

Districts differ so much and planting rains may not fall all over the Island exactly to a day, nor dry weather for picking occur all over in the same month; but the general rule to be taken for planting cotton is to plant at the same time you would plant corn—there is generally a month to six weeks' limit—calculating carefully when your dry weather usually occurs, and allowing, as near as possible, five months until the cotton is fit for picking; and then the crop will run on for a month or longer more.

The wider the planting, the more uniform will the crop be in quality and in ripening. To be successful, cotton must not have heavy and continued rains at the time it opens its bolls until it is picked.

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CASSAVA.—There are a good many varieties of Columbian cassavas being grown at Hope Gardens, and some of these come from the high mountains and should be suitable for high elevations here. Some of these varieties are offered to any branches of the Agricultural Society or school gardens in mountain districts for trial. They are all sweet varieties. In Columbia very little yam is grown and cocoas to a very limited extent, the great dependence being placed upon sweet cassava.

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DIPPING TANKS.—Re ticks, I wash with my mixture as much as possible and pick off the large fat ticks. It is almost impossible to do the washing thoroughly on pen having cross-bred Indians as it takes time, and to wash a herd of say 300 would take me—neglecting all other cattle work—10 days at least. Under these circumstances, what is to become of other pen work? Dipping tanks are the only practical things and we cannot afford them individually.

—CORRESPONDENT.

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WE believe that it is so, the effective way of getting ticks exterminated in time, is by methods that will, in the first instance, economize hand-labour, never allow a tick to mature, and be comparatively inexpensive. Hand-picking and hand-washing, we know, are tedious ways, and expensive ways, even for a small herd of 20 or 30 head attended to weekly; when it comes up to 100 head, or such a quantity that cannot be *thoroughly* cleaned—down to the smallest calf—every week, then ticks can never be got rid of, although they may of course be diminished by any attention at all rather than none.

* *

We wrote on the subject in last month's JOURNAL, and announced that Messrs. Cooper & Co., the well-known firm of Berkhamsted, England, whose pleasant and interesting representative, Mr. Timson, called on us, as he travelled round the world, in the interest of his firm, visiting particularly the Argentine, South Africa, Australia, all places with immense herds of cattle, and all troubled by the tick pest, and consequently he was very well informed on this subject. He said his firm would be prepared to erect a specimen dipping tank in a central district for cattle. Now here is a chance for the co-operation of a group of penkeepers where pens are close together.

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FORESTS.—This is a subject we are often tempted to write very strongly about. The public indifference to the subject—absolutely the most vital subject we think we have before us—is to us

appalling. For it is appalling to think of our plight when our interior woodlands on our water-sheds, at the sources of our streams, are all gone. They have been going rapidly of late years until the cutting into them from both sides of the island has almost met—in some places has met, and has left not even bush, only bracken and weeds. It is wrong to speak of the quick growth of bush on lands when left to nature a few years, as if that settled the question. Bush is not the large, spreading, umbrageous tree with its great ramification of roots, its dense shade to the land, and the wonderful coolness and moistness it imparts to the soil below, when for miles each tree intermingles its branches and roots with an equally powerful neighbour.

Our long drought has not been caused exclusively by deforesting. Our neighbouring islands of Cuba and Haiti also suffered from drought, and the latter is well forested, for our “seasons” rains which failed us are not “hatched” locally. But the magnet-like attraction high forest land has for moisture-laden clouds which drift past or over dry, sterile hills, without bursting is indisputable, and if we had umbrageous trees over every mountain ridge and hill top, we would have our drenching showers regularly and sufficiently; then our rivers and streams would never run dry, and be hard to bring to the low state they were in last year, and are still.

Therefore the man in the city street, as he expresses himself forcibly and fluently about the half service and slow speed of the electric cars, and of his water supply cut off part of the day, is equally interested with the country planter and penkeeper, and should lift his eyes unto those hills that tower beyond Kingston, which for over a year now have never appeared green, and think seriously and practically of the subject of re-afforesting them and other hills, and of saving what forest is left to us elsewhere.

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RATS.—The subject of the prædial thief having been thoroughly discussed by the Branch Societies, we have asked that another equally destructive pest be discussed, and this time there is no legislation required to enable the pest to be summarily dealt with. This pest is “Rats,” and the methods of dealing with them are: dogs, cats, traps, poison, and virus. We thus attempt to have a campaign of extermination waged upon rats, all through the island at the same time. Now, we beg every reader not to be indifferent, but to set traps at least every night. The far-seeing and energetic will use every means suggested. Meantime, we are having further experiments carried through with preparations of virus, pending the results of the Island Chemist’s experiments in producing an effective virus which can be sold at a cheap rate.

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CACAO.—We call special attention to the information as to the effects of manures on cacao as given on page 108. In Jamaica

we are better situated to obtain manures than the other West Indian Islands, as we are also a stock-raising people. Almost every planter, large or small, keeps stock, and the conservation of the droppings of these, as is so carefully done on sugar estates, must also be done on banana and cacao estates. The small settler, with his pigs and goats and fowls, cows and mules, is well placed to save their droppings and apply these to his cultivation. Apart from these, there is also brought out in the same article the wonderful effect of a simple mulch of grass. Have we not also tried to convey to planters the *extreme* value of mulching permanent crops? But the small settler can bed his stock with grass, leaves or any kind of "trash," and so secure a mulch that will have, in addition, very strong manurial value.

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GOATS.—There have been so many enquiries of late for milch goats and for information about milch breeds, that we have written a short article on the subject, to which we refer all interested in this subject.

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HONEY.—Somewhat conflicting reports have been received as to the honey crop this season. Some beekeepers say it is unusually poor; some that they have done well. The truth is, that it has all depended upon district. We know one beekeeper who has never done better, and as through the drought he lost all other crops which were the sources of his livelihood, he was glad to have this good mainstay; and his figures are wonderfully good. Taking it as a whole, however, honey will be a light crop, the dry weather of last year having played havoc with the bees—mostly through want of a water supply, like cattle.—See article, page 116.

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Shows will be held at Mears Pen, Upper Clarendon, on Easter Monday, 20th April, at Christiana on 21st April, at Hampstead on 23rd April, and at Porus 30th April.

As His Excellency the Governor leaves for England on the 23rd of April, he will not open the two last named shows as was expected, but he is looked for with much expectation, even excitement, at Mears Pen and Christiana.

St. Mary Show will be held at Ballards Valley, Port Maria, on 16th July, when a great prize list will be gone through. We note some special events to stir up some excitement and amusement; and so long as these are not foreign to agriculture, and are innocent and useful, we look upon them with favour.

Besides the usual bending races and tent pegging events, there will be a tug-of-war, a foot race for men, and a donkey race. We should like to see estate teams enter for the tug-of-war. This sort of thing tends to keep men steady and induces and fosters *esprit de corps*.

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PRÆDIAL LARCENY.—This subject has been well threshed out by all our Branch Societies, and their reports and conclusions have been published in this Journal. The great preponderance of opinion is in favour of a more expeditious way of settling cases brought forward, than prevails at present, and there would be many more thieves dealt with, instead of so many cases being let off or condoned, ultimately according to the kind of punishment meted out, to result in less thieving. Flogging before a Justice of the Peace is the punishment most favoured for those proved to be habitual thieves.

Those who detest the thought of flogging men, although it is now already done with good results here, on occasions, and is done in other countries, ask why prædial thieves should be so punished and burglars and defaulters not dealt with in the same way. There is no logic in the argument. Agriculture—the growing of our food-stuffs and articles for export—is our life, and we are face to face with an increasing tendency of lawless and lazy men to live almost wholly by preying on what is to us our life. This kind of stealing is worst than highway robbery, it approaches on murder, and if it goes on unchecked, it will undoubtedly induce other crimes. If in an industrial country, living almost entirely by one industry, say cotton spinning, there were gangs of men, who in the night broke into the mills, broke the looms, stole the cotton in the process of manufacture, or cotton goods already made, so that the workers were being constantly interfered with, their work stopped, their wages stopped, there would soon be short shrift for the robbers. The thieving of crops here is insidious, irritating, wasteful, ruinous. The force of hunger does not cause a hundredth part of it. Women and children may be left out of account in our deliberations; they are not the factors in ten per cent. of the depredations committed.

CORRESPONDENCE.

(Only letters with replies likely to be of general information are published here.)

Folly Point, Port Antonio, 12th February, 1908.

From time to time I read notes in your JOURNAL respecting the white scale. Kindly mention therein, for the benefit of your readers, who are troubled with it.

Smear a little vaseline over them. Within two or three days thereafter they will be seen to change colour—they look black and swollen. They can then be wiped off with a soft rag.

Ask them to try it, and give the result of their experience.—FRED. A. PETGRAVE.

[This would be too expensive a process over whole trees in a large grove.—ED.]

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Linstead, 17th February, 1908.

Cowpeas to hand. I am quite disappointed with them. I have better, and do not consider them good enough to plant. You are always laying

stress on good seed, and rightly so. I, therefore, expected a first-class article.

[We are sorry you think the cowpeas not good enough for seed. We cannot command the quality of seed. Some years that depends upon the seasons, and we take the best that can be got. The worst looking cowpeas that ever we had came from prominent seedsmen in New York, and when we tried at other seedsmen in the United States, we got the same quality. The fact was that there was no better to be got in the United States that year. The seed you got came from a careful grower, and he, himself, and others in the same neighbourhood, are planting the same seed. The peas are not so plump as we should like to see them, but we never yet saw seed grown in the fall that was large and plump like the spring-grown seed. We have made a germination test, and the peas are all right, so, altogether, we think you may safely plant them, and get a good return.—Ed.]

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Croft's Hill P. O., 27th Feb., 1908.

I have just had a death of a yearling steer, of which I do not know the symptoms. A post mortem was held on him, and it was found that all the internal organs were healthy, but the throat, thorax and windpipe were eaten away by small worms like pieces of white thread. The lungs were intact and healthy. The steer had been weak and ailing for some time, but had always eaten well. Could you tell me the disease, and the remedy?

[This is strongylus and in cattle is rather common, especially in one parish we know, and not uncommon in some other parishes. There have been some articles on the subject, chiefly by Dr. Dewar in the "Journal." There are several kinds of "strongyli," but the one you write about seems to be "strongylus mecrurus." This parasite often occurs in calves a year old, not often among older animals, and with them seldom proves fatal. The favourite place of lodgment is the bronchial tubes, and the first lodgment usually occurs in wet seasons, when the animals are pastured on wet lands. This is the same trouble called husk or hoose. The symptoms you would observe are a hacking cough with a discharge of stringy mucus. Occasionally, when the parasites are in large quantities, the disease is of an exhausting nature; the animal becomes quickly emaciated although it may eat well.]

The latest treatment is by bi-sulphate of carbon, but the old treatment was to get the animals affected into a shed with closed doors and burn sulphur in a pot as long as a man can stand the fumes, then the pot is taken out and the animals left for half an hour or so in the sulphured gas. The old internal treatment was turpentine same as for worms, two table-spoonfuls in a pint of linseed oil or half-pint of castor oil with a little tonic like sulphate of iron or a dose of condition powder.—Ed.]

BRANCH NOTES.

Fairfield.—The monthly meeting of this somewhat defunct Branch was held in the schoolroom on Thursday afternoon, March 26th. There were present: Rt. Rev. A. Westphal, chairman; Mr. J. T. Palache, Travelling Instructor for the parish; Messrs. Jos. McNally, William Lewis, Rudolph Meikle, David Copeland, Aaron McIntosh, James Walker, John Pitter, Edward Swaby, Joseph Blackwood, William Pinnock, Miss Ruth Lawson, Lavinia Miller, C. Peart, C. Clarke and A. Clarke, and the Secretary. There were also present a large number of school children, who

during the meeting, enlivened the proceedings by singing the song, "Stay on the Farm." The chief subject dealt with at this meeting, was the much discussed question of how to cure prædial larceny. The resolutions as passed by some of the other Branch Societies were discussed carefully, and were adopted with some slight additions. The Secretary next read a paper on the value of our Agricultural Society. A vote of thanks was accorded him for this paper, and he was requested to send it to the General Secretary for publication in the Agricultural Journal. Several persons, including two lady teachers, gave in their names as members of the Society, and after the fixing of the date of the next meeting (last Thursday in May) the meeting was adjourned.—H. E. WRIGHT, Secretary.

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Porus.—The regular monthly meeting of this Branch, was held in the Church of England schoolroom on the evening of March 2nd, 1908. The minutes of the last meeting were read and confirmed. Those present were: Rev. W. B. Esson (president), Messrs. W. A. Morgan, Thos. Morgan, D. Crosbie, M. L. Forrest, R. S. Munro, H. Loftman, J. L. Hibbert, W. T. McPherson, Mrs. M. Francis and C. Rowland (Secretary). The first business dealt with was that of the show. It was moved by Mr. W. A. Morgan, seconded by Mr. M. L. Forrest, that we go on with the business of the show as the Secretary was not present, which was unanimously agreed to. It was suggested by Mr. Morgan that an apology be sent to Mr. Palache for coming down and not meeting the committee on the show ground. The Show is to be held on the 30th of April, 1908. The committee is now making preparation for the expected show, and are using all their efforts to make it a success. The ground is only a few minutes walk from the railway, and no one will feel regret in having a trip down. The Governor is expected to open the show, and a full band of music (W. I. R.) will be in attendance. The chief business for the evening was that of the show, which brought a profitable evening to its close.—C. ROWLAND, Secretary.

[It was arranged that the Governor would open this show, but he has to leave for the United Kingdom on important business the week before the show.—Ed.]

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Santa Cruz Mountains.—The annual meeting of this Branch was held at Bethlehem on March 20th, 1908, commencing at 4.30 p.m., with the President in the chair. The minutes of the last meeting were read and confirmed. The attendance at this meeting was large, and the members and visitors have taken profound interest in the work of agriculture. The Committee appointed to draw up rules for the Show reported that this was done on the 4th of February. The rules were handed to the President for his approval before submitting them to the meeting. The Site Committee presented their report, but it was referred back to them for a further report. Correspondence re "Journal" was read. The correspondence re grant for the Show was also read. It was reported that Mr. H. F. Palmer had gone to Kingston. It was proposed that the following members from Myersville be received: H. White, J. R. Green, Geo. Binns, Ed. Honewell, W. M. Witter, Mrs. A. Palmer. It was proposed by the President that a post card be sent to each member of the Society informing him of the date of meeting. It was decided that Mr. Stewart's offer of 5s. be used as a second prize to those who are competing for the President's prize. The Secretary read his annual report. The Treasurer also read his report. These reports were adopted. Here the meeting was dissolved. Mr. Palache was then asked to take the chair for the election of officers for the new year. It was moved by the Rev. Ashton and seconded by Mr. Finlayson, that Stafford Maxwell, Esq., be re-elected President. This was unanimously carried. Moved by Mr.

Chas. Nation, seconded by Mr. Jno. Williams, that Rev. Ashton be re-elected Treasurer. Carried unanimously. On the motion of Mr. Maxwell, seconded by Mr. W. Farquharson, Mr. Seal was unanimously re-elected Secretary. Moved by Mr. R. Murray, seconded by Mr. G. Foster, that Mr. A. R. Knight be elected Assistant Secretary. This was agreed to. The list of members was then read, and from among them the following were selected to form the Executive Committee: Wm. Farquharson, Robert Murray, A. N. Finlayson, Chas. Salmon, John Williams, Isaac Murray, Joseph Salmon, Godfrey Foster, Wm. Davis, Chas Nation, Duncan Blair, Thos. Fagan, P. S. Robertson, N. Ayton and Mrs. Ashton. Mr. Palache spoke eulogizing the Society for the progress made during the year. He also encouraged the members to make special efforts in preparing their holdings to meet the prize ahead. Votes of thanks were then given to the officers who performed their duties so faithfully and well during the past year. After these had been responded to, the meeting was brought to a close.

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ANNUAL REPORT.—At the organization of the Society on the 21st November, 1906, Mr. Stafford Maxwell was elected President, Rev. S. C. Ashton, Treasurer, and Mr. John Stewart, Secretary. The Executive Committee consisted of the officers, ex-officio members—the travelling Instructor, and Rev. J. Rigg, Messrs. L. C. Hibbert, Joseph Russel, Jas. Blackwood, Wm. Davis, Robert Murray, Wm. Farquharson, Charles Nation, Frank Thelwell, Duncan Blair, Isaac Murray, Jno. Williams, Arthur Blair, David Finlay and Thomas Fagan—five to form a quorum. After attending two meetings Mr. Stewart left the district, and Mr. N. E. Seal acted for him until November 22nd, 1907, when Mr. Stewart sent in his resignation, and Mr. Seal was elected Secretary. During the period the Society held its meetings, and these were more or less fairly well attended. At the first meeting the President offered a special prize of one guinea for the holding of five acres and under, most improved during a year. Ten competitors entered the list, and their holdings were inspected by Mr. Palache on the 17th May, 1907, and a report of their then condition was filed. After a second inspection, which is to take place during May, 1908, the prize will be awarded. The Society has had lectures delivered to it by the Travelling Instructor on the agricultural possibilities of the Island generally, cultivation of coffee, method of preparation to be adopted to meet the approaching general Prize-holdings Competition for the parish in 1908-1909; management and care of horses, Irish potatoes, and the Loan Bank. On the 23rd August, the Society also had the privilege of the presence of Mr. John Barclay, who gave a sketch of his travels through Manchester, and strongly urged on the Society the benefit of co-operation. During the year the Society had to face one of the most dreadful droughts ever experienced in the history of Jamaica. Agricultural work was here crippled for a time, when the members of the Society had to utilize their time and energy in procuring water for man and beast. The Society was not backward in making representation of the distressed condition of the people of the drought-stricken districts to the Parochial Board of the Parish through resolutions, and suggesting methods of action that should be followed by the Board to prevent the sufferings experienced by repeated droughts. Immediately after the drought, the Society had seeds and potato-slips sent to it by the Jamaica Agricultural Society for cultivation.

The Society has affiliated with it two sub-Branch Societies, viz: Southfield, with 22 members, and Myersville, with 11. The total membership is 88. During the year the Society received invitations from the Santa Cruz and Appleton Branches, asking to join in their shows. Subsequently the Santa Cruz Show fell through on account of the drought. The Appleton Show was held on the 1st January, 1908, but this Society was poorly represented thereat, owing no doubt to the

continued severity of the drought. On the 22nd November, and again on the 17th January, special efforts were made by Mr. Palache to establish a Loan Bank in connection with this Branch, but little or no success has as yet followed his efforts. The prædial larceny question was fully discussed by this Branch, and resolutions embodying the Society's opinion were sent to the parent Society.

The Society now has under consideration the scheme of holding an Agricultural and Horticultural Show in August next. The Branch is now preparing proper plans for the successful development of the Show, and hope that nothing will intervene to prevent a successful issue.

In conclusion, the Society urges on the members the realization of the value of co-operation, and hope that all the members will work so continuously and harmoniously together, that ere the close of the coming year, the Society's numerical and financial strength, its influence and usefulness, may be acknowledged on all sides.—N. E. SEAL, Secretary.

TREASURER'S REPORT.—Since the formation of this Branch 55 members have paid their subscriptions, and in connection with the sub-Branches, 22 have paid at Southfield, and 11 at Myersville, which gives a total income from subscriptions of £4 8s. 0d. A donation of 5s. was received from Mr. John Stewart for prizes, and 2s. 6d. has been paid as entrance fees by those who entered for the President's prize. The expenses have been 5s. for affiliation fee to the J. A. S., and 10s. to the Secretaries for postage. There is at the end of the year a balance of £4 0s. 6d. in the hand of the Treasurer.—S. C. ASHTON, Treasurer.

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St. Johns.—A regular meeting of this Branch was held on the 14th March at 4 p.m. After the confirmation of the minutes, the Secretary said that no doubt members were quite prepared to hear his report; but was sorry to say that it was impossible for him to produce a written one that day. He would, however, give a verbal one. As far as the report of the Treasurer is concerned, he would move at once that that be deferred, and a written one produced at next meeting. Mr. Hendriks seconded, and the resolution was unanimously carried. Mr. Vernal moved that the Secretary's report be also deferred, and a written copy be submitted at next meeting. Mr. Hendricks seconded, when all subsequently agreed. The Secretary was authorised to forward a letter of sympathy to the President, who is now seriously ill. On the motion of Mr. Banton, seconded by Mr. Hendriks, Dr. J. H. Peck, and Messrs. F. N. Hatchet, of Spanish Town, and D. V. Anderson, Guanaboa Vale, were elected members. A Select Committee, consisting of Messrs. F. A. Vernal, E. J. Hendriks, S. A. Banton and Rev. W. Burke, was appointed to forward a petition to His Excellency the Governor in regard to the tank at Kitson Town, as the lack of water is now more keenly felt than ever. The pond and spring are dried. Much time is wasted in fetching water. The death-rate of this district is very high. There is an annoying skin disease here, the long duration of which is due to the lack of water. It is sincerely hoped that the Parochial authorities will relieve us of our intense sufferings. During the recent storm, accompanied with hail, much damage was done to cultivation.—S. A. BANTON, Secretary.

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Port Maria.—At a meeting of this Branch, held on the 13th February, it was resolved that this Branch be dissolved, as the purpose for which it was formed was accomplished, and there was danger of its clashing with the neighbouring Branches: the dissolution to take place at the end of the current year, 31st March, 1908. The funds in hand, £2 10s. 0½d., to be transferred to the St. Mary Show funds.—E. W. BARTLETT, Secretary.

[Other reports came too late for publication in this Journal.]

PRÆDIAL LARCENY—We have received further resolutions from Branch Societies on this subject to exactly the same effect as the following report of Fairfield Branch in Manchester : Maidstone, Porus, Davyton, South Manchester, in Manchester ; Santa Cruz, Santa Cruz Mountains, Newmarket, Lititz, Nain, Balachava and Appleton in St. Elizabeth.

Fairfield.—At a meeting of this Branch, held on the 16th March, 1908, after full and free discussion on the subject of prædial larceny, the following resolutions were adopted, and the chairman was requested to sign the same on behalf of the meeting, and forward to the Secretary of the parent Society :—

(1) Prædial larceny is decidedly on the increase, and has become not only a very serious hindrance to the cultivator, leading to the loss of his labour, but is also a menace to the peace of the community. Unless drastic measures are adopted it is feared the people will be forced to take the law into their hands, only the well-known order-loving character of our people has hitherto prevented this being done.

(2) The machinery of the law must be amended. The onus of proof of legitimate possession of provisions should be put on any person suspected by anyone ; and the process of bringing such a person to punishment should be made as expeditious and inexpensive as possible.

(3) This meeting is convinced that public punishment in some way must be resorted to, after which the person should be made to labour on the public road or in some other way, till the value of the things stolen, and the cost of the case and of his keep be fully paid.

(4) That the Government be urged to introduce some legislation that will simplify the legal process in cases of prædial larceny, and cause the onus of proof of legitimate possession to be laid on any suspected person. It is believed that Law 29 of 1897 might meet the case, if the Royal assent be given to it.

(5) That in the opinion of this meeting, those who become confirmed prædial thieves (after a third or fourth conviction) should be confined in Government farms. Also that the Government should take care of unfortunate children who have no proper guardians, found guilty of stealing.

(6) That as education is one of the surest remedies, school attendance be made compulsory.

(7) That communities have power to form themselves into Vigilant Committees for the detection of crime with power of arrest.

(8) That more district constables be appointed, so that more patrol duty may be performed for the protection of property.

A. WESTPHAL, Chairman.

H. E. WRIGHT, Secretary.

THEY must have been an agreeably surprised lot, the shareholders of the Consolidated Malay Rubber Estates, Limited, who received notice of a 10 per cent. dividend for their first year, though no dividend at all had been promised in the company's prospectus. The conservatism of that prospectus marks its authors as typical Britishers of the old school. The favourable result mentioned was due to the collection of about 3 pounds of rubber each from some 11,000 planted trees.

The Journal

OF THE

Jamaica Agricultural Society.

VOL. XII.

MAY, 1908.

No. 5.

BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Thursday, 16th April, 1908. Present: His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. H. Clarence Bourne, W. Fawcett, George McGrath, Dr. Pringle; Messrs. D. Campbell, R. Craig, L. P. Kerr, E. W. Muirhead, J. R. Williams, and the Secretary, John Barclay.

An apology for absence was intimated from the Hon. R. P. Simmonds.

Minutes.

The minutes of the previous meeting having been published in the last JOURNAL were taken as read. Mr. Craig called attention to an omission in his resolution *re* the Entire Horses Bill on page 70 of the JOURNAL. The following should have been added: "That the attention of the Government be directed to the serious deterioration which has taken place within recent years in the breeds of horses, ponies, asses, and mules in this Island, with the view of finding means to check further degeneracy, and recommend that a Bill on the lines of the Bill introduced in the Legislative Council in 1889 be introduced in the Council at an early date."

With this addition, the minutes were confirmed.

The Secretary submitted the following matters arising out of the minutes:—

No. J 1223. Imperial Department of Agriculture, Barbados, March 30, 1908

I beg to acknowledge your letter of March 10, expressing the appreciation of the Jamaica Agricultural Society for the treatment afforded the Jamaica delegates at the recent Agricultural Conference, and also to thank you for the kind congratulations of the Society on the successful proceedings of the Conference.—D. MORRIS, Commissioner of Agriculture for the West Indies.

No. 3021-2647.

Colonial Secretary's Office, 23rd March, 1908.

I am directed by the Governor to forward to you herewith the accompanying copy of the Report of the Proceedings of the recent Conference held at Barbados, to discuss the question of reciprocal trade relations between the West Indies and the Dominion of Canada.

No. 3009-3409. Colonial Secretary's Office, Kingston, 21st March, 1908.

I am directed by the Governor to acknowledge the receipt of your letter No. 5028 of the 17th inst., bringing to notice that the "Entire Horses Bill" introduced into the Legislative Council, is not the bill suggested by the Agricultural Society, and in reply, beg to say that the bill introduced is,

save for the omission of "Entire Mules" and for the limitation of its effect to horses used on roads, as decided in Privy Council, identical with the Bill of 1899, the copy of which, transmitted, does not correspond entirely with the copy in the possession of this office.—H. CLARENCE BOURNE, Colonial Secretary.

No. 3074-2928.

24th March, 1908.

Messrs. Elder, Dempster & Co., Liverpool,

Re Fruit Accommodation, Direct Line Steamer. I am directed by the Governor to acknowledge the receipt of your letter No. 4785 of the 3rd instant, and in reply to send you the accompanying copies of two letters which have been addressed to

Messrs. Elder, Dempster and Company on the subject of the accommodation provided for fruit on the steamers of the Direct Line. Copies of these letters have also been sent to the General Agent in Jamaica for his information.—H. CLARENCE BOURNE, Colonial Secretary.

No. 2669-2928.

12th March, 1908.

Gentlemen,—I am directed by the Governor to acknowledge the receipt of your letter of the 5th September last, on the subject of arrangements for a shipment of oranges from Jamaica by the steamers of the Direct Line.

1. His Excellency, I am to say, regrets the delay which has occurred in replying to your letter, owing to discussions and correspondence which have been passing in regard to the subject in the Jamaica Agricultural Society. The upshot of these has been the report, of which a copy is enclosed, drawn up by the Honourable William Fawcett, Deputy Chairman of the Board, at their request, on the subject of the accommodation provided for fruit on two of the steamers of the Direct Line. Copies of letters from certain fruit shippers are also enclosed. The action of the Board of Management in procuring this report was induced, I am to say, by the complaints of many shippers as to the entire loss of their fruit carried by the "Port Royal," on the 24th October, and by the "Port Kingston," on the 7th November from Kingston.

2. With reference to the third paragraph of your letter under acknowledgment, in which you state that when Sir Alfred Jones was in Jamaica, in January, 1907, Sir Alexander Swettenham suggested and approved of an arrangement by which orange shippers were to enter into an agreement for a certain amount of space in each steamer which was to be paid for, even if not used, I am to say that no official record exists of any such agreement, and that the present Governor does not consider that it would have been a reasonable one. The terms of the contract prescribe the rights of both parties. It would be impracticable for an orange shipper at the beginning of the season definitely to say what cool air space he will require. On the other hand, shippers would appear by the terms of the contract to be entitled to bespeak available space by any particular steamer, and arrangements have, His Excellency believes, been in working, whereby they could give notice and bespeak accordingly. If they bespeak space and do not use it, it would be reasonable that some consideration be given to the Company, and this could best be insured by requiring a small deposit or advance to be made on all orders for space in advance.

3. On the other hand, the contractors by clause 9 of the contract, are bound that all fruit conveyed under the contract shall at all times during the period of such conveyance be protected by the contractors by such precautions and system of ventilation as shall from time to time be the best known for the purpose of preventing such fruit being damaged by wet, effluvia, steam, heat, undue pressure or any other cause, and it is plain that this stipulation has not always been fulfilled and possibly is not now fulfilled by all the steamers of the Line, seeing that in the case of fruit packed and shipped under the same conditions, and at the same

time, and sent partly by the Direct Line and partly by Elders & Ffyfe's steamers, the consignment sent direct has been spoilt, whilst that sent via Port Limon has arrived in good condition, thus demonstrating that the provisions for ventilation, etc., on the Elders & Ffyfe's boats are better than those on the Direct Line steamers, and that those on the Direct Line steamers are accordingly not the best known, as required by the contract.—ROBT. JOHNSTONE, Asst. Colonial Secretary.

It was resolved to await the reply to this.

Bulls and Stallion. The Secretary stated that he had received reports from the studmasters, and two of the Shorthorn Bulls had not yet recovered good condition. He would not be able to take steps to have them sold until the studmasters' time was out, and that would be the end of June.

As regards the stallion, "Sir Gerald," he had asked the Live Stock Committee for permission for Mr. Arnett, who had charge of him, to take him to Mear's Pen and Christiana Shows, and they had permitted this: he had arranged for several services to meet any extra expenses, but as the mares could not be returned to the stallion, he asked that the arrangement might be for the one service given to mares—no foal, no fee. It was resolved, however, to abide by the rules.

The following letters from the C. S.O. were submitted:—

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| <p>Leave of Absence,
R. A. Walcott.</p> | <p>1. Intimating that the Governor had granted Mr. R. A. Walcott three months' leave of absence from the 31st March, in respect of his duties as a member of the Board.</p> |
| <p>Direct Line
Steamers.</p> | <p>2. Sending reports of the inspection of the Direct Line steamers "Port Henderson" in February, "Port Kingston" and "Port Antonio" in March, and the "Port Royal" on 9th April, when it was found that the terms of the contract had been complied with.</p> |
| <p>Importation of Horse-
kind into Ireland.</p> | <p>3. <i>Re</i> importation of horsekind into Ireland, intimating that a permit was required to be obtained from the Department of Agriculture and Technical Instruction for Ireland, before any horsekind could be landed in Ireland from any country outside the British Isles.</p> |
| <p>Appointment of Hon.
H. H. Cousins as
Director of Agricul-
ture.</p> | <p>4. Enclosing copy of letter to the Hon. H. H. Cousins, intimating his appointment as Director of Agriculture, as follows:—</p> |

No. 3638-4016.

9th April, 1908.

Sir,—I am directed by the Governor to inform you that Mr. Fawcett having notified his intention of retiring from the Public Service on the 15th current, His Excellency appoints you to be Director of Agriculture and Island Chemist as from the 16th idem provisionally, and subject to confirmation by the Secretary of State with emoluments as settled in the estimates passed by the Legislative Council—namely, a total salary of £850 per annum, of which £600 only is pensionable, plus the official residence, the value of which (settled in accordance with rules) is to be pensionable. A copy of the form of particulars of the office as transmitted to the Secretary of State is enclosed for your information.

2. I am also to say that His Excellency approves of the re-arrangement of the work of the combined department as recommended in the 3rd

paragraph of your memorandum dated 24th February, a copy of which paragraph is enclosed for more easy reference.

3. I am, however, to remind you that as to pay, only what has been voted on the estimates, a copy of which has been sent to you, can be approved; and in this connexion I am to express regret that the proposed increase to Mr. Harris has not been passed.

4. The £50 additional for the Deputy Island Chemist having been passed by the Legislative Council, I am to say that the Governor approves of Mr. Ashby, the Bacteriologist, receiving as Deputy Island Chemist this additional £50 per annum during the year 1907-08.

H. CLARENCE BOURNE, Colonial Secretary.

Proceedings of Permanent International Sugar Commission. 5. Sending copy of circular despatched, containing report of the proceedings of the Permanent International Sugar Commission.

Re What Is Whisky? 6. Enclosing report by Mr. Nolan of the proceedings of their commission appointed to inquire into the question of whether pot-still whisky was entitled to be sold as whisky.

"I have seen Mr. Symonds, the Secretary, and he informed me that the commission would, in the first instance, go into matters affecting whisky, and that the decision arrived at as to time limit, in bond, etc., in reference to this spirit, would materially guide them in dealing with other potable spirits imported into the United Kingdom.

"There is no doubt in my mind that the commission will recommend a time limit for all potable spirits to be maintained in bond before admitted for consumption. This has been adopted by the Commonwealth of Australia, by Canada and the United States of America, and is one of the points strongly insisted on by all food reformers in this country in the interest of public health. It will also be supported by a strong section of the trade who hold large stocks of matured whiskys. Under the circumstances, the planters have good cause to congratulate themselves that the company, Pure Jamaica, Ltd., has been formed, as otherwise if this 'time limit' is recommended, and such recommendation takes concrete form in the shape of law, it would leave them in a worst position than they were before, new rums would be unsaleable, and no planter in Jamaica could carry his stocks for three years. The company, Pure Jamaica, Ltd., will have to find at least £300,000, and this, I have no doubt, they will be able to do, as in the end it will pay the shareholders all the better, and Jamaica rum will get a much better reputation by being put on the market in a matured state, not as at present, almost new.

"I will carefully watch all proceedings and will point out to the company, Pure Jamaica, Ltd., the necessity to be professionally represented at the sittings of the commission.

"I am now investigating a case at Newcastle, where I hope to bring a fraudulent trader to Justice for selling an inferior spirit as Jamaica rum."

Clarendon Agricultural Association. The Secretary submitted the following letter from the late Clarendon Agricultural Association:—

Dry River, Hayes P. O., 2nd April, 1908.

I am requested by Mr. J. C. Elliott, President of the Clarendon Agricultural Association, to write to your Society to the following effect:—There is an amount of £24 3s. 10d. at the credit of the Clarendon Agricultural Association now lying at the Colonial Bank. It is proposed to hand the amount to the Jamaica Agricultural Society on the condition the same be used *solely* for the furtherance of agriculture in Clarendon, for which purpose it was originally subscribed. I am to ask whether your Society will accept the amount, and disburse it as above-mentioned,

when further steps can be taken to hand over the money. Your early reply will oblige.—Yours faithfully,

SYDNEY MOXSY, Late Hon. Treas., C. A. A.

It was resolved to accept the offer, and the Secretary was instructed to acknowledge receipt of the letter with thanks, and to state that the specific way in which the funds might be dealt with, would be considered at next meeting.

Rubber Exhibition. The Secretary submitted letters he had received from Colonial Secretary's Office and from the paper "Tropical Life," intimating that a Rubber Exhibition was to be held in London on September 21st to 26th, 1908, and asking for Jamaica to be represented with exhibits of rubber.

After discussion, the matter was referred to the Staple and Minor Products Committee, and the Secretary instructed to take steps to be represented, if possible.

Dipping Tank. The Secretary submitted letters from Messrs. Cooper & Co., Berkhamsted, England, stating that when their representative, Col. Timson, had passed through Jamaica, he made the offer, on behalf of his firm, of a dipping tank or cattle bath, if the co-operation of penkeepers could be secured, so as to have one in a good central district. The firm was also sending out a sample of their V. 2 Fluid as a result of his correspondence with them, and which they thought would effectively deal with the white scale on citrus trees, other washes not having been found satisfactory so far.

The Secretary was asked to confer with Mr. Muirhead with the view to taking advantage of the offer of Messrs. Cooper & Co., re the dipping tank, and was instructed to get the spraying fluid experimented with and reported on.

Prize Holdings Competition. Report of the awards in the St. Mary Prize Holdings Competition was submitted as follows:—

I beg to submit herewith the report of myself and Mr. E. Arnett on the Small Holdings Competition in the parish of St. Mary, and the results arrived at by us in judging the Holdings for the prizes. The Holdings judged are 95 as compared with the last competition. We would suggest that if the recommendation made in the column for remarks in the attached returns are not approved of by the Board of Management, that the prizes be awarded in each class to the five parties awarded the highest number of marks in each class.

We beg to be allowed to highly recommend the prize winners in each class for the efforts put forth by them to win the prizes, also in the first class, Messrs. Arnett and E. E. Campbell, in the second class, Messrs. J. Ellis, H. J. Crooks, C. T. Drysden, T. A. Bishop and V. Teulonge, in the third class, Moses White, Mrs. Fairweather, Najib Joseph and brother, Thos. Robinson, Edward Vaughan and Joseph Wheeler, who had wrought really wonderful improvements since entering the competition. We regret that the Board of Management does not see its way to recognise their efforts in a more tangible manner by the award of special prizes.

We were much pleased with the efforts put forth to win the prizes by the majority of the competitors, while we regret that in some districts the fear of "more taxes" had killed effort in this direction. The drought last year, so severe in some districts, the continuous rain in this year, had also considerably hindered the competitors in their preparations.

The parochial roads in many parts are only such in name, notably some near Islington, No. 32 road and No. 11. Progress in these districts is necessarily slow; to have to scramble through two feet of mud even for parts of the year with produce, is not stimulative to progress.

The parish generally, although bananas were woefully late, was looking blooming, but the heavy norther of the last few days did, we fear, a good deal of damage, and will act as a further severe set back to the fruit. Cocoa promises a good crop, especially the younger trees, the old ones recover from the drought very slowly.

Throughout the parish we had to regret the dreadful waste of vegetable matter which might be utilised for feeding animals. People with ten acres of land buy milk because "they have nowhere to feed a cow." The same thing applies to pigs. We have no hesitation in saying that where there is one cow kept in St. Mary to-day there might be fifty, and where there is one pig kept there might be a hundred.

We observed great improvement since the last competition in the homes of peasantry, in forking, trenching, pruning cocoa, and especially in the timing of fruit for the spring market. There is, however, plenty of leeway to make up, especially in cocoa cultivation, and more especially in the curing.—(Sgd.) E. ARNETT, W. CRADWICK.

New Office.

The Secretary submitted a minute on the subject of new offices for the Society. He stated that they were still under earthquake conditions in the office, with only one room for all purposes, and the place was inconvenient in being too far away from the centre of the town, necessitating loss of time and incurring expense in travelling; he therefore suggested that the Parade Garden House, at present occupied by Mr. Briscoe, would be a central and suitable office for the Society, and that arrangements might be made with the Government to rent same. There was plenty of room for an office, there was a large yard which was also used at present by the Hope Gardens Department as their town depot, and this arrangement could continue with advantage to both.

He was instructed to learn from the Government whether this proposal would be entertained, and then refer the particulars to the Office Committee to report on.

Grants to Shows. The following applications for grants to Shows were submitted:—(1) St. Mary; (2) Hanover;

(3) St. Ann; (4) Bath.

Mr. Craig asked whether there were two St. Mary Shows as he understood there was one on the same grounds next week.

The Secretary said that the present grant asked for was for the original Saint Mary Agricultural Show, held at Port Maria, and they had conformed with the conditions so far; he believed there had been some attempt to arrange between the two Show Committees only to hold one, but he did not know whose fault it was that there were two. At any rate, the Hampstead Show Committee had not conformed to the conditions governing grants to Shows, as he had not been informed as to the holding of the Show till a grant was applied for; the draft of Prize List had not been submitted as was required by the rules.

The Board decided that all the rules governing grants to Shows must be complied with before the grants will be made, and that if the Hampstead Show Committee did not so comply, they could not

obtain the grant. The applications for grants to the four Shows applying were agreed to, provided they complied with the rules.

Marquees. The Secretary also said that the Bath Society, in their letter, stated that at their last show they had spent over £50 in temporary buildings, and they suggested that now there were Marquees here to be had cheap, belonging to the Assistance Committee, the Parent Society should purchase one or two and hire them out to shows. He might say that the Chairman, when he was Colonial Secretary some years ago, had suggested this course to save so much being spent on temporary buildings, but the various Show Committees, on being consulted, did not favour the idea, most of them having permanent buildings. Now, however, there were many small country shows, and Marquees might be tried to see if they would work all right. The cost could be taken from Shows Account. Marquees, 40 by 20, could be bought from the Assistance Committee for £6, and 20 by 14, for £3. A new Marquee of good quality, if imported, would cost about £30. He was authorised to buy a Marquee of both sizes and hire them out to shows.

Affiliations. Applications for affiliation were read from the following local Agricultural Societies, recently formed :—Guy's Hill, Eliot (St. Mary), Rose's Valley, Comfort Hall (St. Elizabeth), and Smithville (Clarendon).

It was resolved that if either of the proposed Branches at Rose's Valley and Comfort Hall, near Balaclava, interfered with the Balaclava Society, they should not be affiliated.

The Secretary stated that the first intention was to work them as sub-Branches under the Balaclava Society, and that he was still in correspondence with the Secretary and Instructor on the subject. He was instructed to report at next meeting on the matter. The other Societies were duly affiliated.

Resolutions. The following resolutions were submitted :—
1. From Newmarket Branch, stating that it was impossible for them to ship the fine oranges from that seasonable district owing to the long upgrade haul by road to the Railway, and also to the fact that the Direct Line Coastal Steamer left Black River on the Friday, whereas the Mail Steamer did not leave Kingston until the following Thursday.

The Secretary was instructed to say that the Board was sorry they could not do anything in the matter, as the Coastal Steamer made arrangements to secure the most freight possible and get conveniently to Kingston by the end of the week.

2. From Bath Branch, asking that the Instructor for St. Thomas should reside there for a time, instead of only visiting the district for two or three days, occasionally.

The Secretary said that Mr. Briscoe being under the control of the Board of Agriculture, he submitted the matter to them at their meeting on Wednesday, when it was pointed out that Mr. Briscoe

had duties to perform in Kingston as Superintendent of the Parade Gardens, which necessitated his living near by, but the matter was still under consideration.

Secretary's Visit. The Secretary reported that since the last meeting of the Board he had visited Upper Clarendon in connection with the Mear's Pen Show, and Christiana district in connection with Christiana Show, and he thought they would both turn out to be satisfactory Shows.

Instructors' Reports and Itinéraires were submitted, which the Secretary said he had carefully checked, and that there was nothing of moment to go before the Board in connection with them.

New Members. The following new members were elected :—C. R. Mundy, Cuba ; Horatio Swaby, Bog Walk ; H. Astley Berkeley, Grenada ; W. A. Liddell, Canal Zone ; L. C. McPherson, Bocas del Toro.

Mr. Fawcett's Retirement. Mr. Craig asked to be allowed to propose a resolution in regard to the retirement of the Hon. W. Fawcett, which took effect on the 15th inst. He and Mr. Fawcett had been associated in agricultural work for the past 20 years, and he had always found him a capable and pleasant gentleman. He moved the following resolution :

“ That this Board desires to place on record its appreciation of the services of the Hon. Wm. Fawcett to the agricultural interests of the Island at large, and particularly to the work of this Society, of which he has been Deputy Chairman for eight years ; to express its thanks for much useful and painstaking assistance, and the regret of its members at his severance from this Board, on his retirement from the Public Service.”

Dr. Pringle seconded the resolution.

The Governor said that was a resolution which he was sure the Board would approve of most heartily, and he was exceedingly glad that the Director of Public Gardens and Plantations was a man of such qualifications that he had been able to work harmoniously and usefully with that Board, and to have had his work in connection with that Society, outside of his official duties, recognised in the way they had been recognised.

The resolution was then put to the vote and carried unanimously.

Mr. Fawcett, in replying, said he felt very proud eight years ago when the Governor was asked by the Board to appoint him as its Deputy Chairman, and he felt still more proud to know that his services had been appreciated by the Board. It had been a great pleasure to him to have worked harmoniously with his colleagues on that Board, and he had to thank them all for their kind resolution (hear, hear).

The meeting adjourned until Wednesday, 20th May, 1907, at 11.40 a.m.

INDIGESTION.

A YOUNG poultry-keeper (we mean young in the sense of keeping poultry—not years) called on us lately and said, “I keep my poultry under the best sanitary conditions of cleanliness; I have pure-bred chickens, crosses between two pure breeds, and common chickens. The common chickens give me little trouble to raise, but I lose a good many of the pure breeds, in fact, every week I lose some; one day they stand about huddled up, and the next day they are dead. Now explain all about this.” We said—“First, let us know how you feed the pure-bred chickens, now don’t omit anything. We want to know exactly how you feed them, and how often; we presume they have all clean water, and cannot drink dirty water at the kitchen gutters.” “Yes, there is nothing but clean water, they can all drink. I feed the pure-bred chickens well; I mix bran and middlings together.”

“In what proportion?” we asked. “Two of bran, one of middlings—I mix it up.” “In what way, cold or hot water?” “Oh, cold water.” “Now, *where* do you feed them?” “On a cement pavement: I fling the food down so that they can all get a chance, and I feed them on that kind of food twice a day. The common chickens I just feed ground corn flung on the ground and let them take their chance.”

“Well,” we said, “you are all wrong. In the first place, bran is a most unsuitable food for young chickens, and fed in your proportion with middlings, is unsuitable for hens too. The mixing with cold water is wrong, and if you could show us a sample, we are sure the consistency of your soft food would be like a sticky paste. Bran is a coarse food, and in certain proportions is a good food for cows, and under certain conditions is useful for fowls occasionally.

“Secondly, in feeding meal stuff to grown fowls, the proportions should be, three of middlings to one part of bran; and for the small, active breeds, the proportion can be, two of cornmeal, two of middlings, to one part bran, and for fattening poultry the bran should be omitted.

“Thirdly, hot water should be used, poured on to the mixed meals, and after this a tin or dish placed over the vessel to let the meals steam a little; then the meals should be mixed into a stiff, crumbly pudding, not pasty. Furthermore, it should be fed in dishes like yabbas, never on the ground, whether that is paved or not, and when fowls leave it the remainder should be lifted away at once; it sours in a short time if left exposed to the sun. Now you have transgressed all these points. Soft food thus given as we have described, once a day in the early morning, but only after they are a month old, will push on young chickens meant for table faster than feeding only on dry food; but chickens meant for stock birds, that is, for breeding purposes, and chickens meant for laying, are better fed as we describe. It has always to be remembered that two different methods are followed by poultry-keepers; in Kingston

where imported meals can be bought easily and those in the country where these are not available, and our notes are usually written for country people. The following is for town people who can buy imported foods readily. The first food for chickens should be coarse Scotch Oatmeal; this puts bone in them and builds up a strong framework. In the first week, this can be fed in little portions four times a day, just so much as will half fill their crops, and you can know this by catching up one chicken and feeling its little crop gently. If you can get white duck ants, that is a good meat food; if not, you can dig up some worms for them, nothing can be better than worms, as they contain a fine grit that helps the digestion; if not, you must then feed a little meat stuff cut up very fine. By burying some rough bones in the earth, where damp, these can be dug up in a week with maggots in them (but not if the soil is very dry). In the second week, brown rice (being particular to note not to use the fine white, polished rice) can be used every second meal instead of oatmeal, and in the third week crushed country corn can supersede the oatmeal entirely, for economy. For stock birds, we ourselves continue using the oatmeal for a month. Hulled oats, guinea corn, wheat, may also be used, if they can be readily got. The feeding should be scattered over a fresh place every day to keep the ground clean. The chickens should not be shut up close at night. So sure as they are shut up close, and the air is vitiated, or if they pick up their food on the ground soiled by poultry droppings—although to the eye clean—or if they drink dirty water from the yard, then yaws will attack them."

Now what was our friend doing—feeding bran, a coarse food, so coarse, as to be good for making cows laxative—to tender young chickens. Further, he mixed it with middlings and used cold water; it became a sticky paste, sticking in the beaks, gullet and crops of the chicks; and he fed them to repletion each time. The chicks could not digest this; they gaped (gaping their beaks after meals was one of the symptoms described to us) the coarse bran irritated their digestive organs, thus they had violent indigestion, appeared huddled up, and the greediest of them, and the weakest died. Some pulled through, as some human infants pull through even on the most unsuitable feeding, but they are affected all their lives by it. Chickens, like some infants too, can be killed by misplaced kindness. The common chickens took pot luck, were fed ground corn scattered on clean ground, and survived.

SHADE FOR COCOA.

THE following particulars on the cultivation of Cocoa in Grenada especially as regards to shade, were published in "Tropical Life" of London, where some valuable articles on cocoa have been appearing:—"From all the accounts that I have been able to obtain, it would seem that in a great many particulars, the Grenada systems of cultivating cacao are rather different from those employed by most of the other large producing countries.

“As regards distance in planting, and the best method of pruning, I should say that an estate cannot be compared with an orange, lime, or nutmeg orchard, nor could it receive the same treatment, as citrus trees and nutmegs produce their fruit at or near the ends of their branches.

“In order to obtain a maximum crop from any of these trees, it is necessary to plant, grow, and prune them in such a manner as to expose as large a surface of foliage as possible to the full sunlight; therefore they should be planted sufficiently far apart to only just touch each other when they have attained full size, due attention having been paid to local circumstances.

“A cacao tree produces fruit on its stem and main branches, hidden away from the sunlight, the greater number of flowers appearing in the shadiest spots. This habit of the cacao tree should, and does, teach us that on an estate each tree should be planted, pruned, and generally treated, not as a distinct and separate unit, but as part of the whole. The trees should be planted sufficiently close and pruned, so that the whole field completely shades the ground, and forms an unbroken canopy of foliage without branches over-lapping, the upper surface of which is exposed to the sunlight, and the space beneath which is kept free of twigs and drooping branches.

“To this system of pruning and close planting do we owe, in a great measure, our large yield per acre. There is no doubt that the machette or cutlass as used in Grenada for pruning does considerable damage to the trees, even in the hands of an expert workman. Following Mr. Barrett's excellent advice, the outfit for my cacao pruners (men) during the coming season will be : one large and one small pruning saw, one large flat chisel, one large gouge chisel, one light mallet, one small pocket pruning knife, one step ladder, one pot resin oil, and brush.

“In repairing an old cut which has left dead wood, it is necessary to remove all the dead wood, and if, in doing so, a hole is made in the stem of the tree, it is better to gouge out the sides of the hole or the lower side in such a manner as to make it as flat as possible, and that no water could rest in it, rather than to plug it up with any foreign matter, like clay, &c.

“With regard to the question of permanent shade, it is worth noting that wherever shade trees have been planted in former years, the planters in Grenada are now destroying them as rapidly as possible. Our system in Grenada is to shade the soil completely, allow the foliage of the cacao trees as much sunlight as possible, and grow wind belts wherever they are necessary. It has been proved to the hilt in Grenada that cacao does not yield a full, or even a fair, crop when grown with other trees.

“The first field of cacao I planted, sixteen years ago, was planted with nutmegs, and several other planters did the same thing. We have all regretted it since. It is a fact that cacao grown with other trees lives longer, and does not exhaust itself as early as cacao grown alone in a field; but as this is due to the

smaller yields, it is a practical fact that the former does not pay as well as the latter.

"Since Mr. Barrett's visit to Trinidad, there has been a good deal of discussion as to the most satisfactory knife for picking ripe cacao pods. The knife at present in general use in Trinidad and Grenada, is certainly not the best in respect of the damage done to the trees, but it is by far the best as regards speed in picking. This last is a great consideration to planters, and until a knife that is satisfactory in other respects, and, that may be used at a fair speed, is put on the market, the one at present in use will remain, as the damage done by the knife in picking is not immediately apparent.

"The sun-drying buildings in Grenada are very compact and convenient, and have attained a high perfection in economy of space and material. A typical drying-house in Grenada consists of a low building, say 5 or 6ft. from the ground to the eaves, having a roof mounted on small wheels, which may be pushed off in one or two portions on rails, to expose a floor or platform on which the cacao leaves are placed for drying. This is the Trinidad system. But in addition to this, in Grenada the lower portion of the building contains one, two or three tiers of large trays of about 20ft. long by 6 or 7ft. wide. These trays are mounted on rails, arranged in such a manner that the whole series may be drawn out and exposed to the sunlight at the same time."

[As far as Jamaica is concerned, we have conditions that approximate with those of Trinidad, and conditions that approximate with those of Grenada. We have cocoa growing in open, alluvial valleys, where it is hot and steamy, and at the same time breezy, and we have cocoa growing in deep, narrow valleys with steep hillsides, where the sun comes late and goes early, but where it is more or less hot and humid in the days but chilly at night, and we have cocoa growing at some elevations, where it is more equable, i.e., less extremes of temperature, not so hot in the day and not so chilly in the nights.

In Trinidad the planters hold that shade is necessary, but are coming to think that it might be lighter than what they have believed to be absolutely required, i.e., when the trees are full grown and shade all the ground below. The principal variety grown in Trinidad is Forastero, which is a large and spreading tree, and cocoa is grown there more in open areas as a rule, than here or in Grenada.

In Grenada the valleys are steep and narrow, the Calabacillo variety is most generally grown, and shade can be completely dispensed with after the trees cover the ground. Here in Jamaica, we can lay down no fixed rule. It is with cocoa, as with many other products; our conditions are nearly as varied as on a continent, and some plantations would require to use heavy shade, others light shade, and some no shade at all after the trees are full grown. We have to remember that cocoa grows almost equally well here, from sea level to 3,000ft. where the soils are rich, although the rate of growth is different, and as elevation increases, so the shade is much lighter. But it is a fixed rule that young cocoa trees must have shade.—ED.]

REASONS FOR BRANCH AGRICULTURAL SOCIETIES.

*(Being an Address by the Secretary of the Fairfield
Agricultural Society.)*

DEAR FELLOW AGRICULTURISTS.—I am delighted to see so many of you who have responded to the invitation which I lately sent you in my capacity as Secretary of this Society, and I am in hopes that our Branch will, from to-day, take a new lease of life. Perhaps the reasons why many of you have not, in the past, joined this Society, are very good reasons ; perhaps they are otherwise.

From conversations with different people at different times, I have been able to arrive at some of the reasons which keep people out of this Society. The objection of some is, that they on their small stony freeholds, are unable to carry on the improved methods of agriculture which is asked for by those who are the Agricultural Instructors in the various districts. There is no scope, they say, for the use of the fork and the spade, the plough and the harrow, and so it is useless to hear the lecture on systems which cannot be put into practice. Others, perhaps, argue that those who are merely talkers can know very little concerning the practice of agriculture, though they might know something of the science, and so cannot give helpful advice.

What ever might have been your objections in the past, I am going to ask you to throw them all away, because upon close examination, they will be found to be wrong. I will attempt to show you why it is a good thing to be a member of an Agricultural Society, and will preface my remarks by saying, that no man is so proficient or skilled in any science or art, as to have nothing further to learn ; and that even the wisest may learn something useful and helpful by association with others of the same pursuit in life. These are the days when, in all departments of life, men find that single-handed, they do not get on well, and so we find established Clubs, Societies, Associations and Unions, yes, and Trusts. Even those who, in some countries, are not satisfied with the government of the country, form themselves into secret societies for the purpose of putting down, what in their opinion, is objectionable, and of effecting a change for the better. It is therefore of the highest importance, that those who are engaged in that branch of the world's work, known as agriculture, should combine to see if the best results can be obtained in their agricultural pursuits.

I trust that by this time the foolish idea is gone, that the government of Jamaica wants to tax our places more heavily, and hence the reasons which caused the formation of these Societies. It is true that when we improve our places and get more money, our wants and ambitions will also increase, and to satisfy them we will

have to get the things that are taxed ; but the man who is sufficiently well off to be able to buy and keep his riding horse, does not think it hard to pay his taxes when he finds that what he pays goes to upkeep his roads ; the horse saves him from walking many a weary mile, and besides that, assists him in manuring his land in such a way, that his crop of yam or tobacco is superior to that of his neighbour, who has no stock nor does not save the manure from his stock.

The question still remains to be answered, how can the Fairfield Agricultural Society become of practical value to those who become members ? I will attempt an answer. First—In coming to this Society, we must remember that the parish of Manchester is specially favoured in having as Instructor, one who is not only capable of sitting at his desk and writing a lecture about how coffee or yams or potatoes ought to be planted, but who can also say, “I have succeeded by these methods to grow coffee and yams, and potatoes, better than by the common methods.” One who has grown successfully almost every economic plant worth while growing in Jamaica. Do we want knowledge as to how to treat our sick animals, or how to prevent them from getting sick, we can get hints from his own experience that will be useful to us. Do we want instruction about how to treat our soils when they show signs of sourness or firmness, we can get valuable hints from him.

The next point to which I would call your attention, is the fact, that apart from the Instructor, the members of such a Society as this, can be of immense help one to the other. One man for instance, wants to know how best to succeed in growing a particular crop ; another who has succeeded in that direction, may be able to say that he has tried this or that way and has been successful. One man has no luck, as he thinks, to rear pigs, another has been quite successful, and can help his friend. A's horse is not in good condition, and B can tell him how to brighten the animal. On all such points we can receive and give information from one to one another. Besides this, we, by constantly meeting and speaking on matters connected with our work, will feel more cheerful when we get back to our homes and fields.

I think also, in the matter of such tools as the fork and the spade, very useful tools, but not in use in our district, that though some individual members, might not be able at first, to raise the five or six shillings necessary to purchase them, yet the members of the Society can join together and purchase a few of such tools, and one member could use the one tool or the other for a certain period, passing the tool on to the next member at the end of the period. This same principle could develop into something larger, by and by, and by so doing, we could get an improvement in our breeds of animals, such as goats, fowls, and donkeys. Those who live in cane-growing districts could unite and purchase and erect mills of a superior type to those now in use. In many such ways, we can make our Society of practical value.

In conclusion, let me say, that in spite of the glowing accounts which from time to time reach us concerning the wealth of places in Central America and other parts, in spite of the fact that some go away and return home looking bright and cheerful (many are not successful and many do not return.—ED.); on the whole, there are very few places where there is more room for steady improvement on the part of the poor man, than Jamaica. Only he must not be ashamed to work; he must not expect to get independent in one day; he must not be zealous to-day concerning his work, and indifferent to-morrow; he must commence in his early days, and work steadily with the determined idea that he must succeed. If this is done, in spite of droughts, in spite of wind, and storms, and earthquakes, in spite of all odds, he is bound to succeed in the end.

We may not get rich according to the accepted meaning of the term, but we will reach to that position of independence which will enable us to live an honest and profitable life.

H. E. WRIGHT.

SEEDLING SUGAR CANES.

THE following description of some of the most favoured varieties of the seedling sugar canes, should be of interest as so much enquiry is now being made by Branch Societies for particulars of these, so that they may be introduced among their members:—

Sealy Seedling.—This cane has given good results in the experiments both at Antigua and St. Kitt's. At the former, it has given satisfactory results as plants and also as ratoons, but at St. Kitt's it has not ratooned well. It is a cane of great vegetative vigour, capable of growing on rather poor and heavy soils where other canes will not thrive, and it appears to stand drought fairly well. It is to be recommended for cultivation on heavy, clayey soils. This cane mills well, but its juice is not exceptionally rich in sugar.

B. 208.—This cane requires good, well-tilled soil with a fair rainfall. It goes freely and is easily established; it ripens quickly and thus offers advantages in cases where the land is required for other crops in a rotation. It yields juice of exceptional richness.

In ordinary mills it mills well, but is inclined to be somewhat brittle, and therefore, is rather difficult to handle where a Krajewski crusher is used.

D. 625.—This is a yellow cane, usually of large size, a vigorous grower, but yielding juice which is not exceptionally rich in sugar. The average sucrose content of the juice from plant canes for this season at Antigua was low. It is a cane that is likely to attract the attention of planters and will shortly be introduced into the experiments at St. Kitt's.

B. 156.—This is a yellow, erect cane having light-green leaves. It arrows rather freely. It would appear to be more suitable for

the heavy, clayey soils of Antigua than for the light ones of St. Kitt's, thus somewhat resembling the Sealy Seedling. The juice it yields is not very rich in sucrose.

D. 109.—This is a purple cane introduced somewhat recently into these experiments. It has given good results at Antigua, both as plants and ratoons. At St. Kitt's the plant canes were satisfactory, but the ratoons were poor. The juice is of moderate richness in sucrose. Like some of the other canes (notably Sealy Seedling), it would appear that this cane is more suitable for the heavy soils of Antigua than the light ones of St. Kitt's.

B. 367.—This is a short, erect, grey or pink-tinged cane, with broad, light-green leaves. It arrows freely. At one time it was thought promising in St. Kitt's, but it has not occupied a prominent position there recently. It ratooned well during the last season at Antigua. The juice is only moderately rich in sucrose. This cane must be classed as one of moderate merit.

B. 306.—This is a yellow cane not unlike the Bourbon. It does not arrow excessively. It has given good returns both at Antigua and St. Kitt's as plants and as ratoons, though the ratoon canes at both places have, this season, been somewhat below the average. It is a cane worth attention in a moderate degree. Sucrose content of juice moderate. Instances are reported where this cane has become dry and hollow in parts, and there is a suspicion of liability to disease. These points should be noticed.

D. 116.—This is a yellow, erect cane with very broad, dark-green leaves. It arrows freely. The cane appears well suited to the conditions obtaining at St. Kitt's, where it has given good results, and where it can be recommended for planting. It appears less suitable for planting in Antigua. The juice is somewhat poor in sucrose.

D. 130 is a dark-green, erect cane with dark-green leaves. It is easily grown and arrows freely. It appears to be of moderate merit only, but might be cautiously tried on a small scale. The juice has a fair sucrose.

D. 95.—This is a dark purple, erect cane, which, when growing, often presents a shabby, unsatisfactory appearance. It therefore frequently happens that when the cane is reaped the yield is in excess of what was anticipated. The sucrose content of the juice of this cane is usually very high, though it is to be observed that this feature has not been conspicuous this season in the juice from plant canes. This cane thrives best on somewhat heavy moist land, and it does not stand drought well. It is not well suited for the conditions of St. Kitt's, but in some districts of Antigua it give very good returns and is being planted in fair quantity.

D. 74 is a pale-green, erect cane with light-green leaves, and is of interest because of the attention which it has attracted in Louisiana. It has given fairly good results under experiment at St.

Kitt's, but has not been so successful at Antigua. The juice is of moderate richness.

B. 147.—A yellow, long-jointed cane, inclined to trail, having broad, dark-green leaves. It rarely arrows and now very extensively planted in St Kitt's. Its cultivation is also being rapidly extended on the lighter soils of Antigua. It is conspicuous as a disease-resisting cane; its timely introduction in St. Kitt's saved the situation when the ravages of disease bade fair to ruin the sugar industry. Its juice is of full average richness in sucrose when the canes are fully mature. It is an excellent milling cane, containing a large quantity of juice, which it yields very freely. When this cane is being crushed, the capacity of the pumps attached to the mills is frequently taxed to the utmost, owing to the great flow of juice.

White Transparent.—This cane, which is known locally under many names (Naga B., Caledonia Queen, Rappoe, Mount Blanc, and Jamaica cane are believed to be synonyms), is a variety that is most extensively planted at Antigua, where it was introduced to replace the disease-stricken Bourbon with happy results. As it fell a prey to disease at St. Kitt's, its place has been largely taken by B. 147. It is a grey or pink-tinged cane, somewhat inclined to trail, having broad dark-green leaves. It arrows freely. The juice is of average richness in sucrose, but at times is inclined to be gummy. It is a somewhat fibrous cane. It is believed that several canes of greater merit are now at the disposal of planters, and it is anticipated that it will be steadily superseded by other canes at Antigua in a manner similar to that already adopted by the planters in St. Kitt's.

B. 303.—This cane, which has only been introduced into Antigua, showed a disposition to die out in ratoon canes during this season. This was probably due to the dry weather experienced during the early part of the season, but if this character is confirmed, it will render this cane an undesirable one for planting in this Island.

DEPRECIATION OF FARMS.

WE often hear of the great prosperity that prevails all through the United States. This is in part true, because there have been vast new districts to open up, and a great influx of a working, thrifty, orderly population from Northern Europe. The "effete" old continent has in fact been supplying the best form of capital—fresh blood and industry. Yet still in the face of this prosperity, thousands of farmers in the Eastern States have been going a begging; the newspapers of the New England States are full of advertisements of farms for sale. The twelfth census discloses some interesting facts concerning this, from which we can record some lessons. Twelve thousand farms are empty.

Something of the same nature has happened here. There are stretches on the hilltops and hillsides with no umbrageous trees

growing over them, and these are the hillsides that have been gullied by heavy rains ; these are the hillsides that are growing little or nothing now ; that bake in dry weather, and are washed poorer and poorer with every heavy rain. And there are hills too, on almost every large pen, not high but rocky, and growing nothing but low bush. These should be planted to tree-fodder crops—breadnut, ramoon, salt bush, and so fulfil a double purpose. In this way, no land could be called wasted. Then large stretches of land, too, have been worked out in the past through being steadily cropped with one crop without much cultivation or attention, perhaps for a long succession of years in coffee, with not a scrap of manure being added, then flung up and put in pasture, then generations of cows raised on the same fields, until the pastures are now giving poor crops and are infested with ticks. All other methods notwithstanding the most effective cure for ticks, would be cropping with something else than cattle. There is hardly a penkeeper in the Island who could not take one pasture every year and put it under some plant crop, even if it were not an export crop like cotton, but simply corn, guinea corn, or sweet potatoes, all excellent stock foods, and which really would pay them in the long run. The profits of the corn have not to be counted on the returns of so many bushels of corn alone ; there is a great amount of green stuff that could be fed to horses, mules and cows—the thinnings of the corn and the corn tops, and the Spanish needle that comes up afterwards. In six months, by doing so, the ticks would be gone; but it would be better to take two half-yearly crops off. Many of the pens in the plains near the sea, could grow mighty crops of cotton if the owners would only put their heart to it. All old methods must give way in the face of new circumstances, and the failure of so many new things here is simply owing to want of proper preparation and precaution, and the sanguine belief— an improper optimism—so common, that everything will come out right, but how can it without personal effort and personal study ? As the years go on, men have to think more over their work ; have to think long ahead, which constitutes forethought, and have to follow a line of work right through personally, and with care and alertness all the time.

Hoard's *Dairyman* says : "The figures show for instance, that the annual decline in the value of farm lands in Pennsylvania is \$1,131,067. That is the amount the farmers of that state are losing every year. It is a disheartening prospect. With it goes a growing distaste on the part of farmers' sons to be farmers. Back of all this trouble and loss, lies the one great indictment that can be placed against the eastern farmer, that his system of farming has been so devoid of intelligent methods, that fertility has been constantly lessened. That is the real bottom cause for all this loss. No such decline in value or in the spirit of farming would have taken place if the old time productiveness of the farms had been maintained. The first great mistake was in cutting off the forests from the tops of the hills. As long as the hilltops were kept shaded and moist, the springs and streams were kept alive, and the

wash and erosion by heavy rains was checked. This latter fact is clearly seen in the South. One rarely sees a piece of ground gullied that is covered with timber, for the reason that the downpour is absorbed and held.

“Next, the eastern farmer gave up sowing clover. Not one acre of red clover is grown to-day in Central New York and Pennsylvania, where there were ten, fifty years ago. Complaint is made that the land is clover-sick. No wonder. Years of tillage have exhausted the humus, and the soil has grown sour, and so, without bending his mind to the task of looking into the difficulty, the farmer has gone on with the work of soil depletion. ‘We can’t raise clover any more here,’ they say. It is the cry of impotence and lack of business courage. Underneath it lies the old time prejudice against science, book-farming and all that. Such a spirit and such methods would destroy fertility even in the Valley of the Nile.

“It has been hard work to arouse the eastern farmer to a belief that deliverance from these evils lay in the direction of putting more brains, more study, more of what science has to give, into his farming.”

OTHER LANDS.

“THIS JOURNAL is meant to be educative, and education goes for nothing if it is not wide, liberal, and judicious; it must not be parochial, and limited to narrow grooves. In publishing selected matter occasionally about ‘Other Lands,’ as we have done, it is in the hope that in the accounts of their agriculture, their commerce, their industries, their home life, their hopes and aspirations, their struggles, toils and energies, their achievements and successes, there will be found something to inspire us to progress.”—*Reprinted from JOURNAL, 1902.*

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At the Royal Colonial Institute recently, Sir Henry Blake, K.C.M.G., a former Governor of Jamaica, and lately Governor of Ceylon, delivered a lecture on “Ceylon of To-day,” and as the agriculture of Ceylon includes many products in which we are equally interested, some extracts from this will, we have no doubt, be interesting and instructive:—

“The area of Ceylon is one-sixth less than that of Ireland, and its population about four millions. The revenue was in 1906 £2,335,000, the expenditure £2,176,000, and the public debt £4,813,000.

“The cocoanut palm supplies, in various products, over 21 per cent. of the exports of Ceylon, and there is no more stable and profitable cultivation in the island than the cocoanut properties on the western coast. The industry is largely in the hands of natives, some native gentlemen owning extensive cocoanut properties. The Blue Book of 1906 gives the acreage under cocoanuts as 987,030,

and taking this area planted with even seventy-five trees to the acre, worth 10s. each—a moderate estimate—the capital embarked in the industry is over £37,000,000 sterling.

“The peninsula of Jaffna is a plain, flat as a billiard table, and inhabited by 300,000 of the most thrifty and industrious people in Ceylon. Here the cocoanut gives place to the palmyra and equally useful fruit palm, and every inch is cultivated with a care and thoroughness not exceeded by the inhabitants of any country in the world. Nothing that can be accomplished by manuring and irrigation is neglected, even the green leaves from the adjacent forests being collected and sold in the markets for manure, while hundreds of wells are sunk through the coral bed of the peninsula from which the fresh water, sometimes resting on salt water beneath, is lifted by balanced bucket sweeps as in Egypt and China.

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“It now only remains to visit that portion of the island that has during the past seventy years been transformed by British capital and energy—the hill districts into which so many millions of British capital has been adventured, and where the grievous losses by the coffee disease of thirty years ago were met with such fortitude, and since retrieved with such patient determination.

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“Up to this elevation rubber grows freely, and the tea cultivation now begins alternating with large properties of cocoa. The days are hot, but the nights are always cool—a blessing that can only be realized by those whose lot has been cast in tropical countries.

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“The journey is entirely through tea cultivation, and the distant views over mountain and valley are magnificent. Here we lose sight of palms and rice, and the Sinhalese population is replaced by the Tamil coolies, who are seen at work, the men pruning where necessary, the women and children in long lines along the hillsides, with deep baskets hung on the back by a broad band passing over the forehead, picking off the tender shoots and deftly transferring them to the basket with an upward jerk. Here will be seen the European planter riding round the property along steep and narrow paths that cling to the hillsides, satisfying himself that the plantation is free from weeds, the pruning properly done, and the flush or new growth is being thoroughly picked by the busy fingers of the workers. Down by the valley, close by the stream, is the factory, with its long rows of windows and its large water-wheel or tall chimney. Here at the close of the day the laden baskets are emptied, the contents being carefully picked over, and all the pieces of twig and the too coarsely plucked leaves discarded. The remainder is carried to the drying loft, where after about seventeen hours the leaves are sufficiently withered to be taken to the rolling machines, where the leaf cells are broken, allowing the juices to exude. They are then sifted into the several grades, when, after being left to fer-

ment for two or three hours, they are placed on trays and dried or fried at a heat of 180 to 220 degrees, when the tea is ready for packing. On the care exercised in the various processes, depends the appearance and flavour of the tea, which may be spoiled by over or under-fermentation, or by too rapid or too slow drying. The immediate supervision of this part of the industry is almost entirely done by natives, who perform their duties with commendable steadiness and ability.

"The acreage under tea in 1906, which is the last year for which I have complete returns, was 461,260, and the total weight of the tea exported was 170,527,126 lb. The yield per acre varies from 350 to 800 lb. —in one or two estates even as much as 1,000 lb. has been obtained—the greater weight of leaf in the lower levels compensating for the superiority of flavour in the higher. The average return was 370 lb. per acre, on which at present a duty, amounting to £3 1s. 8d. per acre, is paid on the tea imported into the United Kingdom. The reports for 1907 show that the crop and prices are both good, and the tea proprietors of Ceylon may be congratulated upon excellent prospects, and a position as stable as they have enjoyed since the hardy tea plant first replaced the ruined industry of the coffee grower.

"In 1903 there were but 11,595 acres planted in rubber. Then came a great rise in the market price, and capitalists realized that Ceylon possessed all the necessary capabilities for the production of so valuable a crop. Land was taken up in feverish haste, and every officer of the Government who could assist in its survey, settlement and sale, was devoted to the duty of satisfying the demands of impatient capitalists. In a colony where large numbers of proprietary rights were undetermined, the Government was bound to insure that every title granted to purchasers should be valid and free from claims; and in many cases this process necessarily involved considerable delay; but the Government did everything in its power to expedite matters, with the result that up to the middle of last year, the area acquired and being cleared for rubber, was over 12,000 acres, and companies have been formed with an aggregate capital of £700,000.

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"One of the most interesting of the lectures was that delivered by Mr. Herbert Wright, then Controller of the Experiment Station at Peradeniya, but now, I believe, holding the responsible position of editor of the *Rubber Journal*. He accepted 60,000 tons of rubber from wild sources as a constant annual quantity, and taking 65,000 tons as the demand for rubber in 1906, to be increased by a growing demand of 5,000 annually, he assumed that the demand for cultivated rubber would, in 1917, require 60,000 tons, for the production of which an area of 960,000 acres would be necessary.

"Again, he entered into the question of the production of rubber from an acre, and gave a warning against over-production. The actual experience of tapping 198,000 trees in Ceylon and the Straits

Settlements in 1905 gave 240,000 lb. of rubber, and in 1906 the tapping of 10,000 trees in Ceylon of the average age of ten years, gave 30,000 lb.

“Now, in calculating the probable value of growing plantations in Ceylon, we may take a planting distance of 20 feet by 15, or 150 trees to the acre, as the most suitable, and if we accept from seven-year-old trees a return equal to the one-half of that secured from 10,000 trees of ten years’ growth, it will give 275 lb. to the acre. I have calculated roughly that the cost at which an acre of rubber will stand in seven years, including purchase, clearing, planting, weeding, and interest on outlay, will average about £22. What the price of rubber may be at that date, who can say? But, if we take it at 2s. 6d. per lb., the annual gross return of £34 7s. 6d. per acre will leave a handsome margin of profit to the investor. There are at present at least 140,000 acres planted with rubber in Ceylon which, on the estimate that I have adopted, will in six years return annually 14,062 tons, value £3,937,360, which will almost equal the value of tea exported in 1906.

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“A necessary preliminary, however, is the stimulation of the intelligence of the rising generation by education, and to this end considerable sums have annually been voted to the legislature. The anxiety of the Government may be judged from the fact that the sum voted for education increased from £44,500 in 1896, to £82,000 in 1907, and the number of scholars from 198,454 to 236,364. A technical college has been established; higher education is within the reach of all, and special instruction is secured for female scholars under the inspection of ladies appointed by the Government, while a compulsory education ordinance secures that the intelligence of all the young population shall be developed; and wherever possible school gardens are established, and placed under the supervision of a competent inspector from the Botanic Department. Seeds are supplied, and practical instruction is being given in the elements of agriculture.

“But in considering the future welfare of the people, the present needs should not be neglected, and while the population is on the whole as contented as any community known to my experience, and as law-abiding in its attitude towards the Government, it is evident that their material prosperity may be greatly enhanced if they can be induced to improve upon their present system of agriculture, and to adopt better arrangements for the disposal of their produce.

“The Ceylon Agricultural Society was formed by me in November, 1904, after I had visited the greater portion of the island. Its object was to bring all classes, down to the smallest cultivators, into closer touch with the Government, with each other, and with the scientific staff of the Botanic Department, for, if any improvement was to be hoped for, science must go hand in hand with labour. The central society was formed of all the members of the Legislature,

some of the principal inhabitants, European and native of each province, and all the members of the staff of the Botanic Department. Local societies were formed by voluntary action in every part of the island, and were affiliated to the Central Board of Agriculture. They receive all the publications of the Society, and every information that can be of use to cultivators is sent out in thousands of leaflets in Sinhalese and Tamil to the local societies. Every member pays a subscription, and the feeling of self-respect is preserved. Instructors are appointed by the Central Board, who, on invitation, are prepared to attend any meeting of local societies, and give practical instruction upon any matter under consideration, and the staff of the Botanic Department, who from the first have placed their services unreservedly at the disposal of the Society, answer readily any questions submitted to them, and of themselves issue valuable advice that strikes the director, the chemist, the mycologist, or the etomologist, as being of service on the general question, or in the event of the occurrence of a pest or disease. The result has been quite equal to my expectations. I will not say beyond them, for my experience has shown me that, if the people believe that there is a *bona fide* anxiety to assist them, they will respond. In May, 1907, the latest date for which I have statistics, there were 1,200 members of the Central Society, and fifty-two local branches had been established with an aggregate membership of 4,000. Numbers of native gentlemen have come forward, some giving considerable sums, others sufficient areas of land for experimental stations, and experiments were in progress that cover the entire ground of rotation in paddy fields; and on high ground the introduction of new products, such as date palm, sisal hemp, salt bush for fodder, Australian and American maize, etc., and the improvement of paddy by the introduction of the best new varieties, of cotton, of tobacco, of arrowroot, of cassava and other numerous products hitherto neglected. Experiments are also being made in widely separated districts of the effects of artificial manures generously supplied free by Messrs. Freudenberg & Co., of Colombo. Sericulture and apiculture are also receiving attention, and results in all these matters are brought before the people by agricultural shows, organized by the local societies, with the co-operation of the Central Board, the judges being supplied generally from the staff of the Botanic Department, and pains being taken that prizes are only given to the actual growers of the exhibits. In these shows the people take a deep interest, and the competition is very keen. Co-operation has made considerable strides, and I look forward to a great extension of the principle. The Central Board of Agriculture has made arrangements for the receipt in Colombo for consignments of cattle, agricultural produce, or fruit from local societies, and for their sale by auction, or in the markets, and this arrangement has worked well. In two or three districts Co-operative Loan Societies have been formed with entirely satisfactory results. In this direction, I have been urged from time to time to establish Government Loan Banks, but I have refused, for I am satisfied that any practical suc-

cess in the agricultural movement must be secured by insisting upon the principle of self-help. If you want to ruin a man, body and spirit—to take the spring from his muscles, and the stimulus of necessity from his mind—give him something for nothing. A Co-operative Loan Bank is creative, a Government Loan Bank is an object for predatory attack. The one stimulates prevision, industry, and sense of responsibility, the other induces extravagance and carelessness ; for it may be broadly asserted that no Eastern peasantry, probably no peasantry, would regard a Government loan in the same light as an advance made by its neighbours and co-partners, who will have no nonsense in the matter of repayment.

“The Agricultural Society is being worked without expense to the public revenue, save the modest grant of £2,000 made annually to it. I regard it as one of the most hopeful factors in the future progress of Ceylon.”

INSECT PESTS.

THE man who gets his living by growing crops often sneers at the scientific man who would explain to him how this is so, and why that is so ; and the scientific man often speaks in lofty contempt of the plodding cultivator who cannot explain in precise words why he does this, or why that resulted so. The practical cultivator here had discovered for himself why peas and beans are the best catch crops to accompany corn; and that corn and peas were the best crops to grow after root crops, long before the scientist had a word written about rotations ; the cultivator had found this out by actual practice. The scientist did not discover it ; he observed it already done, and asked himself why it was. Then like a problem in Euclid, he set himself to work out the reasons. It is the business of the scientist to analyse. The chemist breaks up material before him and separates it into simple elements. He tells you it consists of, or contains so much of, this or that. The botanist observes the flower ; he dissects it into a score of separate parts, and places it in its particular species, family and section. The weakness of the scientist is that he is apt to get too wrapped up in his own particular branch, and he becomes dangerous when he makes it a fad. If the scientist sees a fungus on a tree, he forthwith begins to measure its parts in fractions of a millimetre, and gives it a highly technical description, entirely unintelligible to the persons for whose benefit it ought to be framed. He becomes indeed obnoxious then to the practical man, for after all, the cultivator in nearly all countries, though joked about for his slowness, is naturally the shrewdest of all classes of men. If he does not say much, he thinks the more. He takes being led to do this fancy thing, or the other impossible thing to heart, and does not like to be fooled with much high-flown talk. He does not forget it, and is not readily fooled twice, though he may be patient enough to listen to repetition which he has not the language at his command to argue against, but he feels in his heart and knows in his mind that it is wrong. The weakness of the cultivator is his con-

servatism, his **parochialism**, his **prejudices**, which become often **bigotry**. It is rare to find a happy combination. The man who **appreciates** the value of Professor von Bughunter in his particular direction uses him with discretion so far as he finds reason, and also thinks so highly of John Corn-grain that he utilises his knowledge to the utmost, is a man of skill above them both.

In no way is science so faddy as in the science of entomology. The keen, undiluted entomologist sees dangerous pests in every insect that crawls, and estimates millions of money to be lost by them. The fact is, there are no more insects now than there ever were. It is ourselves that make use of, and cultivate more plants, which insects have fed upon, and to make room for the plants, clear away hundreds of other plants not useful to us, which insects have also fed upon. Just as dirt is matter out of place, and a weed is a plant out of place, an insect pest is an insect out of place to us. An insect too, may be useful to us to-day, and be considered a pest to-morrow, just because we have found that the plants on which it feeds are of value to us. The entomologist may be of vast use to agriculturists, but the man who cultivates should never need to depend solely on his help or rely entirely upon his knowledge. It is the cultivator who is on the ground, working with the soil, and growing the plants, who should observe and note, and spare time to do so, because the knowledge he gains is worth money to him. He should feel that he ought to learn more and more about the relationship between plants and insects, insects and birds, birds and beasts, all towards himself, so that he may surely turn a stern hand on unmitigated nuisances, such as orange beetles (*makakas*), and rats are; and deal even justice among those who help some ways and harm in other ways, so that they may not become too numerous or too scarce, such as wasps, pecharies and mongoose; and act kindly towards those that are almost entirely beneficial, such as lady-birds, owls and lizards. Much he can do also to prevent unmitigated pests from harming him. Heaps of rubbish should not be allowed to lie about among his crops, but should be buried or spread out. Crop after crop of the same nature, troubled by pests, should not be raised on the same land—crop rotation is one of the most effective measures that can be applied against insect pests. Permanent crops like cocoa, coffee and oranges, should be regularly limed,—repeated light doses being far more useful than heavy applications at long intervals. The use of a fertiliser rich in lime is better for old plantations of cocoa, and all who have used Basic Slag in this way, speak well of it. Speaking generally, there is usually some way within easy reach of the cultivator in which enemies can be guarded against, warded off, or killed. It is the business of the entomologist more particularly, to tell whether a certain pest is found elsewhere, what it preys upon there, and the action taken against it. Thus the observant cultivator can add to his own close and practical local knowledge through the medium of the entomologist, whatever other knowledge has been gained.

BUDDING OF COCOA.

FROM a paper on Cacao Experiments in the West Indies, read at the recent West Indian Agricultural Conference, held at Barbados, by Mr. Joseph Jones, Curator of the Dominica Botanic Station, we take the following extracts :—

“ From time to time attempts have been made to grow Criollo cacao in Dominica, but success has never followed any of them. Planters who have tried to grow it express regret for what experience teaches them was wasted effort.”

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“ The growing of the Forastero and Calabacillo varieties of cacao in the West Indies has been a great commercial success. Although the beans are inferior and, in the Calabacillo, extremely bitter, there is still a great demand for it, and it pays to grow.”

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“ Some planters now grow the Calabacillo variety alone, on account of its hardiness and freedom from disease. Those who know by experience how harassing is the presence of the ‘canker,’ and kindred diseases in a plantation, will understand why planters prefer hardy trees and a low-grade produce, to delicate trees, bearing high-grade produce.”

He recommends budding or grafting cocoa for the following reasons :—

“(1) A planter would be able to grow fields of plants of one selected strain, the beans of which would all require just the same degree of fermentation.

“(2) It would be possible to propagate disease-resisting varieties.

“(3) Grafted plants, well cared for, should fruit earlier than seedlings, thus giving a quicker return on capital invested.

“(4) The return per acre should be increased by the selection of prolific types.

“(5) The effect of grafting may tend to dwarf the plants. This would be an advantage in islands which suffer from much windy weather.

“(6) The growing of grafted selected cacao, combined with intensive cultivation, would be the high-water mark of successful cacao cultivation.”

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[Although the budding of cocoa has been successfully demonstrated here, planters have fought shy of budding as a general practice, and prefer to grow seedling cocoa trees. They would prefer to see a good many trees which have been budded, growing and bearing under varied conditions, before adopting the practice. Still, it is apparently successful as seen in some places within our knowledge, where the stumps of old Calabacillo trees, which were

budded after the hurricane of 1903, are now bearing Forastero pods. The experience with Criollo cocoa in Dominica is one that should be noted carefully. This variety grows luxuriantly in the western parts of Jamaica, and odd trees can be seen in other parts, but there are some parts where it was tried to be grown generally, but did not succeed. It requires the best type of soil and a sheltered situation.—ED.]

RATS.

READING the last copy of the JOURNAL, I note what Mr. A. N. Dixon says about rats and the loss they cause. His remarks as usual are just right.

My experience of poisoning in the field proves that rats will travel 500 or 600 feet in search of food. May be more, but I do not know this.

A few weeks ago, I had the bananas from three small branches cut in two and poisoned with a sweet phosphoric paste, and set out through the cocoa walk. By this means I usually kill a good many rats, but not the wise old ones, most to be feared. I discovered these useful little insect birds that had been poisoned, and I have halted, for they are my best friends.

Can some reader of the JOURNAL propose a well-tried and effective method of poisoning rats and not birds? I am sure the harm done in poisoning birds is untold.

I have a French wire trap that catches young and medium-sized rats very nicely, but not the wise old-timers.

I know of no way to place the poison so as to tempt a rat and yet secure it from the useful little insect-eating birds that search everywhere.

I am glad that the island chemist is experimenting to obtain a suitable rat virus, for such as I have tried have been very ineffective.

I have tried feeding rats with corn meal and molasses, and then suddenly changing it to cornmeal, molasses and phosphorus, but a great many shy off at once that can be tempted by the poisoned ripe banana. Any proven method will be acceptable.

Troja.

JNO. LOCKETT.

[WE have often mentioned in the JOURNAL a very effective method of setting rat poison without fear of poisoning domestic animals or birds, and that is, by bamboo pots. You cut up a good size bamboo as if to make bamboo pots for plants, but you leave them double, i.e., one joint between two. You put the poisoned bait in both ends and lay them wherever you wish. You can have a score set, or 100 for that part of it; rats and mongoose can go in but not cats, dogs nor fowls. A cat can haul the bait out with its claws, but that is unlikely.

We have used this method successfully for many years. Old rats, as Mr. Lockett mentions, are very wary, and may not take

the bait out of the pots, but young rats go in readily; and if we kill plenty of young rats, of course this will have its effect in time. Once a rat, however, takes a poisoned bait out, and does not take enough to kill him, or being a particularly strong rat, he recovers, he will hardly ever take another poisoned bait.—ED.]

SWINE FEVER REMEDY.

WE have received from Messrs. Wessels Bros., Kingston, some sample bottles of a remedy for swine fever, which is in great favour in Germany, and has had some repute in the United States. This remedy, however, is not given by the mouth, but has to be injected subcutaneously on the neck, just behind the ears. We are afraid this will be a drawback, as few people will have a proper syringe to undertake such an injection. We shall, however, be glad to hand a bottle to anybody who breeds pigs largely, and who has a case of swine fever. It is to be understood, however, that pigs may be getting sick, and refusing food, and dying; and there are some persons who call every trouble hog sickness. This does not however, prove the trouble to be really swine fever. The symptoms of this have been often described in the JOURNAL—the pig refuses food, has diarrhoea, an eruption breaks out in the skin, it feels hot to the touch, generally but not always, and when the pig attempts to walk, it staggers with its back arched up.

SUGAR INDUSTRY.

A REPORT of the Antigua Central Sugar Factory shows that it was commenced in 1905 on the most modern factory methods, with a capital of £45,359. The results are most satisfactory, and in 1907, 4,320 tons of sugar were made from 40,782 tons of cane, and 1 ton of sugar from 9.64 tons of cane. After paying 10s. per ton for the canes, a further sum of 2s. 3d. per ton of cane (making 12s. 3d. together) was allotted to the contracting proprietors out of the profits.

Canes are also purchased by the factory from outside estates and from peasant proprietors. While the original estates' proprietors receive payment on the basis of $4\frac{1}{2}$ lb. of sugar per 100 lb. of canes, with a share in the profits, the payment for the canes from outside estates is a matter for bargaining. They are, however, usually bought on the basis of $5\frac{1}{2}$ lb. of sugar per 100 lb. of cane, which works out at about 11s. 4d. per ton of canes. It was stated that the owners of the outside estates were perfectly satisfied to sell their canes at this rate. The factory, too, is under an obligation to the Government to purchase a certain amount of peasant-grown cane each year, for which a price of not less than 7s. 6d. per ton must be paid.

STOCK AND DAIRY NOTES.

MOLASSES AND CATTLE TICKS.—"Experiments made at Brisbane with some valuable dairy cattle have shown that the consumption of molasses by the dairy cattle was in some manner inimical to the existence of cattle ticks. In the Logan district a farmer had kept his cattle free from redwater by giving them molasses; and this report led Mr. Thurlow, of Brisbane, to experiment with dairy cattle. He prepared for them a solution of water and molasses, about half and half, to which the animals went with freedom, and ever since all of the animals, it is stated, were free from ticks. The proportion of molasses was subsequently reduced and even then it was found quite effective in keeping the stock clean. No difficulty is reported in developing a taste for the molasses and water and the use for the purpose of freeing animals of ticks is considered now as a demonstrated success. Mr. T. W. Crawford, of the Mossam Central Factory, reported that a good deal of trouble had been experienced with ticks among the dairy cattle at that centre, and to so great an extent that at one time they were reduced to the use of condensed milk exclusively. They then hit upon the idea of an external molasses wash, using two parts of water to one of molasses. The cows were smeared with this mixture and it was said that every tick on the animals was dead by the following morning and that now they have no trouble with the ticks at the mill. It is even said that molasses is superior to the ordinary cattle dips used for killing ticks, as the molasses kills the ticks almost immediately and the standard cattle dip takes several days. Further, it is not necessary to take any precaution against animals licking themselves, as the molasses does them more good than harm. Incidentally, it is stated that in milking a smeared cow, it is only necessary for the operator to throw a bag over the animal's loins, against which he can rest his head."

[But no mention is made of how the flies that would undoubtedly be attracted by the sweet stuff on the cows' hides are dealt with. We have tried this, but adding a strong solution of Jeyes (licking which, is also beneficial to cows) and also kerosine, but cannot report any particular success yet. The ordinary country practice of adding sour orange juice to tick washes for stickiness, is on the same principle, which we think is cheaper and has better effect. Feeding molasses has the effect of throwing off ticks no doubt, because the feeding of sweet stuff will help the beast into better condition; it also makes a beast perspire more, and free perspiration will keep off ticks. That is the effect on horses.—ED.]

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PUERTO RICO-INDIAN CROSS.—I am a great advocate for the above cross, which produce not only good milch cattle, but also the best working stock in the West Indies. Care should be taken to get heavy, square-built Puerto bulls to mate with heavy three-quarter-

bred Indian cows. Heavy Sussex bulls, mated with large Indian cows, would produce good working cattle. A neighbour of mine has a rather large herd (10,000) of cattle. I have got him to go in for Puerto Rico-Indians; he has bought 150 Puerto Rico cows and two Indian bulls as a start. He is at present milking 120 cows every morning, the milking starts at 3.30 a.m.—R. J. TAYLOR-DOMVILLE, Cuba.

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A cow belonging to John Blackburn of Pennsylvania, U.S.A., was taken sick and died. A *post-mortem* brought to light the following causes: 38 nails (from lath nails to spikes), one corset steel, 9 collar buttons, 3 glove fasteners, 7 screws, one lead bullet, one empty shell, one silver watch chain, one suspender buckle and ten feet of fine wire in coil.

[When cows die mysteriously, a *post-mortem* examination should always be made. The last *post-mortem* we saw on a cow gave as a result a darning needle firmly imbedded across the intestines. —ED.]

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NEW CHURN.—We have seen some notice taken at the last London Dairy Show of a new two-minute churn, which is said to have been put to a severe test and been successful. It is said that the very best butter can be obtained by the use of this churn in an average time of two minutes, either winter or summer. That the yield is increased, that the butter is superior in texture, colour and flavour, that very great saving of time and labour is effected, and that the churn is especially easy to clean. The churn, however, requires more power to churn it. It is made on a new principle altogether, and is sold by Messrs. Bobby, Ltd., St. Andrew Works, Bury St. Edmunds, England.

COMMENTS.

BENGAL BEANS.—By courtesy of Mr. Conrad Watson, we have some Bengal Beans for distribution. This bean is used for green dressings, but is freely eaten by cattle. It grows like the Velvet Bean, and makes almost as profuse growth, but is adaptable to a greater variety of soils.

RATS.—Among some of the ideas suggested for catching rats, the following one was given in a discussion on the subject by the Maidstone Branch Society: Place a few grains of corn in a kerosine tin, and put it in the way of rats or mice, against nothing that they can climb in. They will go in freely but cannot come out. We ask readers to try this, and we shall do so ourselves. We are glad to note that all who were present at the Maidstone meeting, promised to do their best to exterminate this destructive pest.

WEATHER.—Over most of the Island dry weather still prevails to such an extent, as to cause public anxiety, even if one does not own an acre of land or cultivate a potato. Even though some districts are fortunate in having showers enough to suffice them, or more than enough, as is the case in parts of Westmoreland and Hanover, yet we hang together as a whole in these days more than before, and everybody takes interest in the weather in all parts of the Island. The agriculturists' lot has been an anxious one these last 18 months, and only the May seasons in all their old time volume can relieve our anxiety.

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BEES.—We have repeatedly referred through our spells of dry weather, to the fact, that water must be provided for bees. For giving them water economically and with safety for them, we lately read of a fine, simple, idea. You get a rough board, that is, not planed smooth, the rougher the better, you place it in the shade near the apiary, leaning against something, so that it slopes at a small angle. Then you fix at the top of it an old bucket or kerosine pan with water in it, and a small hole in the bottom, so that the water leaks out and trickles down the board, the roughness of the board sending it down in different tiny channels. In time the drip gets all over the board, then the bees alight in safety all up the board and suck the water without difficulty and without danger, while the minimum of water is wasted.

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GUINEA CORN.—It is a most interesting point to find, that both guinea corn and maize corn grown here, are higher in their content of proteids than the same corn grown in the United States. Red guinea corn imported from the United States contains 10.9 per cent. of proteids, native guinea corn grown from the same seed, contains 14.4 per cent. of proteids, a very substantial difference. Now here is our chicken food problem solved. Although our guinea corn is not so rich in albuminoids as oatmeal, it is still superior to maize corn, and very little inferior to oats, that is, oats with the husk on as distinct from hulled oats and oatmeal. The grain of guinea corn being small, it wants no grinding to make it suitable for young chickens and fowls. We urge its growth therefore, and it can be planted and will bear well, when maize corn will not often bear, that is, in June. We have some imported seed from which seed can be raised to plant out more extensively.

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SHOWS.—Four Agricultural Shows were held in April, the first month of our financial year, and we attended three of these, at Mear's Pen, Christiana and Porus, while Mr. Cradwick attended the fourth held under the auspices of the Hampstead Agricultural Society at Ballards Valley, St. Mary. In every way the three first shows mentioned, for which we can answer, were successes, and we do not take success only to mean that there were surpluses, but

the weather was good, the people cheerful, the exhibits interesting, and of show quality, at Mear's Pen and Christiana, and the effect on the neighbourhood, we are persuaded, has been of educational value. We would not say that every detail of these shows was perfectly satisfactory, but if deficiencies in arrangements are noted to be improved and guarded against next time, why that is an education too. We shall have short reports of details of these shows in next JOURNAL, as the matter for the current month was already in print when the shows were held. The next show to be held is St. Mary, at Ballard's Valley, near Port Maria, on July 16th. Kendal Show, we are glad to note, has been arranged to be held on Thursday, 26th November.

BRANCH NOTES.

Albany.—The Albany Branch held its meeting on the 7th ult. The attendance was small, as it was "banana day." Mr. Cradwick gave much needed instruction *re* the treatment of cocoa trees. This was done in the fields of one of the settlers. When we repaired to the schoolroom the lecturer gave a helpful lecture. After the lecture, we discussed the rules, and agreed to hold our meetings every other month. The subject of the "rat pest" which was referred by the Secretary of the parent Society was considered, and all pledged to wage war against the rats. From the start we have considered the starting of the hat industry, and at this meeting the Secretary was instructed to get the names of learners; and the managing committee was asked to make the necessary arrangements. Several members made requests for plants which will soon be sent for. The next meeting will be held on the 18th June.—REV. C. A. WILSON.

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Grand Cayman.—A meeting of this Branch was held at Government House, Georgetown, on Tuesday, 7th ult., at 7.30 p.m. The President, His Hon. G. S. S. Hirst, occupied the chair. The following members were present: Arthur Bodden, Collector of Customs; Edwd. Parsons and Wm. Farrington, Esq., J. P.; Messrs. J. T. Ebanks, Malcolm McTaggart, J. P. Bodden and H. O. Morren, Mr. F. A. Myers, Editor of *The Caymanian*, was also present. The President gave a very lengthy lecture on "Poultry," in which all the members present were deeply interested. After the lecture, the question of sisal cultivation was opened by Mr. E. Parsons, and taken up by nearly every member in a very interesting manner. The President had on the table samples of various local products, prepared locally, viz., tomato catsup or sauce, picallily, shaddock marmalade and orange marmalade, showing that these products can be prepared here as elsewhere. It was decided to import four minorca cockerels for the use of the members. Three new members were elected, viz., Messrs. F. A. Myers, J. J. Reid and Albert Wood, making the total membership of the Branch 23. The date of the next meeting was fixed for the first Tuesday in July at the same place and hour. The meeting then adjourned.—J. S. WEBSTER, Secretary.

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Lucky Hill.—A meeting of this Branch was held in the Goshen schoolroom on the 12th February for the nomination of officers for the ensuing year. It was unanimously agreed that Messrs. A. E. Saunders and C. Husband be President and Vice-president respectively, Mr. E. W. Spence be Treasurer, Mr. E. M. Ford, Secretary, and Mr. W. B. Cummings, Assistant Secretary. The March monthly meeting of this Branch

fell through from the inclemency of the weather. The meeting of the Society for April was held on the 8th. There were present : Messrs E. W. Spence, L. E. Barnett, W. Forbes, C. Husband, W. B. Cummings, G. B. Pottinger, E. Pottinger, C. McIntosh, A. Martin, and E. Ford. Owing to the absence of the President, the Vice-president, Mr. C. Husband, took the chair. The minutes of the last meeting were read and confirmed. The Treasurer then spoke of the serious lack of interest shown by some of the members of the Society, and attributed the cause to be a wrong managing staff ; with the belief that owing to the non-re-electing of some of the previous officers, cold shoulders were given. He urged on the members also to keep in mind that the second Wednesday of each month is the time for each of the monthly meetings. It was agreed by the members present, that the best method for planting and growing bananas be taken into consideration at the next meeting. Cocoa looks favourable for the coming season. Bananas go at £11 5s. per hundred.—E. M. FORD, Secretary.

Springfield.—A meeting of this Branch came off on the 27th March. Mr. J. Jacob Irving, the Vice-president, by an appropriate address, introduced Mr. H. D. D. Mennell, who was heartily welcomed by all present. Mr. Mennell was then called to the chair, and the meeting placed in his hands. The prize-holdings scheme was discussed at length, the rules were read, and the benefits set forth. This became necessary, as St. James will be one of the parishes to compete this year. At this point the President put in his appearance. After addressing the meeting, the minutes of the last were read and confirmed. The President here stated that he was much opposed to the discussions connected with prædial larceny. This was followed by a warm and lengthy discussion. Mr. Irving said that the Society is indebted to Mr. O. Chisholm of Montego Bay for the getting of the following new members in that town : Messrs. Thos. Sawyers, Cecil McKenzie, R. D. Howard, Edward Taylor, Robert Foster, Dr. A. A. Vernon. Mr. D. E. Drummond, Point P. O., became also a member of the Society. Much was said about jippi-jappa hat making. Agreed that a committee be formed to consider fully the necessary arrangements and fixtures. The cocoa industry was next discussed with regards to kind and method of culture. The use of fire in preparing land for cultivation was next considered. Agreed that suitable tillage and drainage are the best methods to accomplish the desired condition of the soil ; but there are circumstances when the careful use of fire is highly necessary. Mr. Mennell promised that his next visit will be in May. Here the meeting adjourned after the calling of the roll.—D. ADOLPHUS SMART, Secretary.

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Porus.—The regular monthly meeting of this Branch was held in the Church of England schoolroom, on Monday, 6th April. The Instructor, Mr. J. T. Palache, was present. The minutes of the last meeting were read and confirmed. A letter from Mr. John Barclay, Secretary of the parent Society, was read, to consider the best method to destroy rats. As there was business of importance *re* the Show, it was agreed that the letter be left over until the next regular meeting. Mr. A. S. Rose, Secretary for the Show, gave a short and interesting report on the work done by the Show Committee. Mr. J. T. Palache gave some encouraging words *re* the Show, and that after a long talk, he was glad to know that the Show was being energetically pushed. Members must not keep still, but talk about it as they went along. With one determination those present decided to do all they could to make the Show a great success, and he (the Instructor) hoped that we will have a good turn-out of brood mares, cows, pigs, fowls, etc. It was moved by Mr. S. H. Blagrove, seconded by Mr. A. Thomas, that the Secretary would write to the Parochial Board *re* the St. Toolis bridge, which was agreed to. It was moved

also by Mr. Thomas, and unanimously carried, that a vote of thanks be given to Mr. J. T. Palache. Just at this stage of the meeting, Mr. Morgan spoke about the water supply of Porus. It is hoped that as the committee looked after the Show ground, the road authorities will look after the water table, which is now in a very bad condition. At our next regular meeting Mr. Schwarz will give a lecture on rubber and cocoa. No other business being before the meeting, this brought an enjoyable evening to a close.—C. ROWLAND, Secretary.

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St. Georges.—The monthly meeting of this Branch was held in the Court House, Buff Bay, on the 11th ult. There was a fair attendance. Mr. Geddes presided. Arising out of the minutes, Mr. Miller asked what had been done with regard to the jippi-jappa class. Mr. Russell said that the committee appointed to form the class had never met. After some discussion, it was agreed to adjourn the class *sine die*. Mr. Barclay's letter about rats was then read to the meeting. After discussion, it was agreed to ask Mr. Barclay if he could recommend any virus for exterminating the pest. Mr. Cradwick then addressed the meeting about agriculture in general, and particularly with regard to his experiments with cocoa in the district. After the usual vote of thanks to Mr. Cradwick, the meeting was adjourned until the 9th inst.

The weather in the district has been favourable for the quick growth of crops. Fine showers in the morning, just about the break of day, followed by beautiful sunshine, have brought plants along wonderfully. But the banana is still showing the effects of the drought, and a shipment of 5,000 stems of fruit in one week only contained 90 bunches. The market price has again risen to 2s. 3d. per bunch. The majority of the fruit is very backward. Cocoa is also very late, and it seems that the crop will not be so good as last year. The trees flowered heavily in January, but most of the pods died off when young. The prices still remain above the average of late years. Mangoes will also be very late. Not so many blossoms have put out this year, and the first lot did not set at all. Second lots of blossoms are, however, setting well, and promise to be a fair crop. Ground provisions are now more plentiful and of better quality. Chickens are now scarce. Some people complain of "fowl sick" killing many of them.—W. JACKSON.

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Stewart Town Branch.—The monthly meeting of this Branch was held on Thursday evening, 16th April. Mr. John Stockhausen presided. There were 19 members in attendance. Mr. E. Arnett, the local Instructor, was also present. The acre of land acquired for the planting of cotton has been planted out; Mr. Arnett superintended the planting operations. Mr. James Campbell, one of the members, brought to the notice of the meeting, that the D. M. O. neglects visiting Stewart Town, and that he lives too far away from Stewart Town, and that when there are urgent cases much inconvenience is experienced. He brought forward the matter, as he thought it one the Branch could take up. After some discussion on the matter, the Secretary was instructed to write to the Superintending Medical Officer, asking for information on the subject. The dangerous condition of a road and a track, respectively, that are very much used, was spoken about. Mr. John Stockhausen informed the meeting that he had already petitioned the Trelawny Parochial Board re the road leading to the Dornoch River Head, which supplies the community with water, and that some steps were being taken by the Board to have the grievance remedied. The track leading from Belmont Gate, Manchester Pen, into the Friendship and Liberty Hall mountains, where so many people cultivate, needs to be included in the Schedule of Parochial Roads, to be worked and maintained by the Board. This is a road that is most needed. A petition is to be sent to the Trelawny Parochial

Board on the subject. The matter will be on the agenda for next meeting. At the next meeting also, a discussion will take place on the subject of "rats," which has been brought to the attention of the Branch by the Secretary of the parent Society. Mr. Arnett suggested that the usefulness of the JOURNAL might be increased by selecting from it, month by month, a subject for discussion at the monthly meetings, and putting into practice what is recommended therein. Messrs. David Williams and Geo. Hill have become new members of the Branch. The next monthly meeting will take place May 14.—J. JOHNSON, Secretary.

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Trinity Ville.—The usual monthly meeting of this Branch Agricultural Society was held in the Church of England schoolroom on the 16th April. There were present: Messrs. W. A. R. Carr (President), E. S. Edwards, J. Briscoe (Travelling Instructor), W. T. Hall, D. Grant, J. A. McPherson, D. Bryan, Richard Barns, Thos. Grant, and J. T. Edman (Secretary). The minutes of the previous meeting were read and confirmed. The report of the committee on the rules was read and adopted, with slight alteration. Subscriptions received: Messrs. J. A. Ross, 1s.; F. H. Hawkins, 2s.; W. Snaith, 1s. Circulars from Mr. Barclay, *re* rats, was next dealt with. Mr. Carr led off, followed by Mr. Briscoe and others. Mr. Briscoe did not recommend the destruction by poison, as when the rats were lying dead about the house disease would surely follow. It was finally decided to set traps to destroy the pests that have caused so much destruction to cultivation and about the house. A copy of the resolution by the Bath Society was read with regard to Mr. Briscoe as Travelling Instructor for St. Andrew and St. Thomas. Mr. Edwards on being informed, that he lived in Kingston and had to look after the Kingston Parade Gardens, moved the following resolution, seconded by Mr. Edman, which was unanimously carried:—"This Society heartily endorses the resolution from the Bath Society *re* Travelling Instructor, but goes further: It thinks that the time of the Travelling Instructor should be entirely taken up with St. Thomas and St. Andrew. We understand that he is in charge of the Kingston Parade Gardens, and this must necessarily interfere with his work as Travelling Instructor." Mr. Edwards suggested that Mr. Briscoe should demonstrate in central fields, where members could congregate, when much more benefit could be achieved than the "field to field visit," he did not, however, condemn the latter. After discussion, the majority agreed with the suggestion. The Instructor promised to do so on his return from England, in the districts of Trinity Ville, Jones' Pen, Moffat, Wakefield and Mount Lebanon. Mr. Briscoe spoke on the success of the recent local show. He hoped to hear that the Society would see its way to have a parish show before long. He promised his help on his return, and hoped that those who had not won a prize, would try to do better next time. He next spoke on the prize holdings scheme to be held next year, and gave a thorough explanation on the working of the scheme. In the course of his remarks, he referred to the fact that some persons would not compete through fear of extra taxation, he asked those who held that view to discard it from their minds. He also gave a brief lecture on the pruning of cocoa and banana. Mr. Edwards, on behalf of the members, conveyed the Branch's sympathy to Mr. Briscoe in his illness, which necessitated his going to England on leave, and also wished him *bon voyage*, to which Mr. Briscoe replied suitably. Mr. Carr referred to the good work done in the district by the Instructor, and concluded by saying, he was the right man in the right place. The meeting adjourned.—J. T. EDMAN, Secretary.

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Darliston Branch.—The first annual meeting of this Branch of the Agricultural Society was held at the Enfield schoolroom at 9 a.m. on 10th April, 1908. There were present: John W. Mennell, President; Captain

Coward, and Messrs. W. J. H. Cooke and T. O. Senior, Vice-Presidents; Messrs. D. Williams, G. Scott, J. W. Philp, J. Levy, J. Harvey, Anthony Levy, D. S. Miller, R. W. Smith, W. H. Cooke, C. Stewart, G. Buchanan, J. A. Crooks, Charles Spence, and J. H. Hedley, Secretary. The minutes of the last meeting were read and confirmed. The Secretary read a letter from Mr. T. P. Fraser, resigning the office of Treasurer, giving as his reason, continued ill health. A resolution moved by Mr. C. J. Stewart, and seconded by Captain Coward, was unanimously carried, instructing the Secretary to write to Mr. Fraser, conveying the thanks of the Branch for his past work as Treasurer, accepting his resignation with great regret, and expressing a hope that he may soon be restored to his usual good health. A statement of the Treasurer's accounts was laid on the table shewing a satisfactory balance, which was handed over to the Secretary. The President announced that the engagement of Miss Godfrey as Instructress for Darliston and Cairn Curran, ceased on the 13th, and enquired if the Enfield centre would manage a class for teaching the jippi-jappa hat manufacture. The classes at Darliston and Cairn Curran had been very successful, as he (the President) had been assured, that of the 24 pupils in those centres, all—except two who had been compelled to leave the classes after very little instruction, from unavoidable circumstances—were qualified to make good saleable jippi-jappa hats; that several had already sold hats they had made, and he believed that if a market for such hats can be secured, a very valuable industry had been introduced in the neighbourhood, and he hoped that the pupils will continue their efforts in hat-making. Mr. T. O. Senior, Chairman of the Committee for hat manufacture at Darliston, handed in £2 12s., balance of fees from pupils in his district, and 15s. for straw used by the pupils, at the rate of 9d. each hat made. Mr. C. J. Stewart handed in £2 balance of fees in the Cairn Curran district. The President presented receipt from Miss Godfrey for her month's salary, due 13th inst., when her engagement terminates. Mr. Hedley, Chairman of the Committee for Enfield centre, said that the committee had secured Miss Godfrey's services to teach in this centre. She consents to a less salary, if she had not more than 14 pupils to teach, but her salary will increase in the same ratio as the pupils increase in number. The President congratulated the committee, but warned it, the Branch would not be responsible for Miss Godfrey's salary unless the Committee rigourously enforced the rules directing the classes. The Secretary stated that he had £1 7s. in hand to the credit of the hat-making classes. Some little discussion ensued, as to whether this sum should not be expended in prizes for the more successful hat-makers, but the President's suggestion was accepted—that such competition should be delayed until the Enfield centre had finished its class, when an appeal for subscriptions for prizes could be made, and the public invited to interest themselves in such a competition. The election for new officers took place, when it was unanimously carried that the same officers should be appointed as last year, with the exception of Treasurer. The office of the Treasurer will be filled the next meeting. The President pointed out the necessity that the members must now pay their annual subscription, if they wished to continue to receive the JOURNALS for another twelve months, and that some new members that complained about not receiving their JOURNALS, did not take the trouble to enquire for them; if they would enquire at the Post Office they would find them there. It was resolved that in future the ordinary meetings should be held once a quarter on the third Friday of the first month in the quarter at Enfield schoolroom, at 9 a.m., instead of once a month. This was carried unanimously. After some very encouraging remarks made by the President, who pointed out that the good work done by the Branch was manifest in every direction, especially in aiding and seconding cultivators to carry out the Agricultural Instructors' efforts, a very pleasant and profitable meeting was adjourned until the third Friday in July (17th) at 9 a.m.—J. H. HEDLEY, Secretary.

The Journal

OF THE

Jamaica Agricultural Society.

VOL. XII.

JUNE, 1908.

No. 6.

BOARD OF MANAGEMENT.

THE usual monthly meeting of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Thursday, 21st May, 1908, at 11.40 a.m. Present: Hon. H. Clarence Bourne, Acting Governor; Hons. L. J. Bertram, George McGrath, H. T. Ronaldson, His Lordship Bishop Collins, Messrs. D. Campbell, R. Craig, E. W. Muirhead, J. R. Williams, and the Secretary, John Barclay.

Minutes.

The minutes of the previous meeting have been published in the JOURNAL, copies of which were put before the meeting, were accepted as read and confirmed.

The Secretary read the following letters from C. S. O.:—

4194-4713.

25th April, 1908.

In continuation of C. S. O. letter, No. 3074-2928 of the 24th March last, I was directed by the Governor to transmit for the information of the Board of Management of your Society, the accompanying copy of a letter received from Messrs. Elder, Dempster & Co. with reference to the carriage of cased fruit from Jamaica by the Direct Line steamers.—ROBT. JOHNSTONE, Acting Colonial Secretary.

Liverpool, 4th April, 1908.

Sir,—We beg to acknowledge receipt of your letter of the 12th ult., numbered 2669-2926, with reference to the carriage of cased fruit from Jamaica.

1. The enclosures referred to have all come to hand, and we have carefully read the Hon. W. Fawcett's report, as well as the letters from Mr. A. E. Wigan, Mr. Lionel A. Isaacs and Dr. Harry G. Tillman.

2. As Mr. Fawcett's report deals very fully with this subject, it consequently treats with portions of it which are beyond our control, *i.e.*, the proper curing and packing; carriage under proper conditions to the port of shipment, etc. But with regard to the carriage by the main liners, we are only too willing to give all the assistance we can to ensure delivery in good order.

3. With regard to the two instances you mention, of the fruit being landed wasty, we fail to find that any conditions existed on board the ships to account for it. For instance, we enclose as a specimen, a copy of the *Port Kingston's* temperature chart, which shows a consistent temperature of 52 to 54 degs. throughout the voyage. We have inspected the *Port Royal's* chart for the voyage commencing 24th October, and while it took a little longer to lower the temperature to 52 degs., once having reached that point it was then quite consistent, only on one occasion subsequently rising to 55 degs. Here then, you have the *Port Kingston*, the latest addition to the Imperial Line, fitted with a powerful and the best installation at present known for the preservation of fruit, and on each occasion with the same conditions existing on board

the ship, landing her fruit four times out of five in good condition, yet for failure on one occasion, the ship's installation is blamed. We respectfully suggest however, that section 3, sub-section (a) of Mr. Fawcett's report, furnishes the explanation of that failure.

4. We are afraid, no official record exists of the arrangements arrived at with Sir Alexander Swettenham, seeing the conversation referred to took place shortly before the earthquake, and as a result of that disaster, it was overlooked. We must say, that so far as we are concerned, we would have preferred the old arrangement to have remained in force, by which shippers bespoke, 10 days before the sailing of the vessel, the quantity of the space required, and if the applications were in excess of the space available, it was to be divided *pro rata*. It was solely due to the continual complaints made by the shippers to the Agricultural Society of not being able to get all the space required, that the alteration was suggested by which any shipper could reserve, in the month of August, the space required for the whole season, and any part of it he did not fill was to be paid for. To our minds, this was a perfectly fair compromise, but as the shippers have found it impracticable, they will no doubt, be satisfied to revert to the old arrangement, which quite satisfies us.

5. With regard to the concluding paragraph of your letter, in which you say that the "provisions for ventilation, etc., on Elders & Fyffes' boats are better than those on the Direct Line, and that those on the Direct Line steamers, are accordingly not the best known as required by contract," we would point out that there is no difference in the installations—in fact those on Elders & Fyffes' steamers are only copies of those on the Imperial Direct steamers. In this connection we cannot do better than enclose you letter received from Messrs J. & E. Hall, Dartford, which explains itself.

6. We have dealt with the points raised in your letter, but in our opinion, they do not explain the whole of the difficulties in regard to orange carrying. Of course, you are aware that in framing the contract, the main consideration was for bananas—in fact, at the time there was very little mentioned about the citrus fruits. Therefore, the ships were designed and planned primarily for the carriage of bananas. It was only subsequent to the hurricane of 1903 that the demand for cool air space for oranges assumed dimensions, and to meet that demand, we reserved from August to January, cool air space exclusively for oranges, thus, curtailing the shipments of bananas to that extent. The Fruit Company for a long time, maintained that oranges and bananas would not carry well in the same compartment, and to meet them, we agreed to ship oranges in the after holds only, but as the forward holds in all the steamers will not accommodate the contract quantity some bananas have had to be shipped aft. This has been very instructive, as it has proved the Fruit Company's contention to be correct, because apart from the question of temperature, the same air circulating through the oranges and bananas, is detrimental to the latter. Again, oranges will stand a very much lower temperature than bananas—the latter becoming chilled if anything below 52 degs. is reached—whereas oranges require some degrees lower than that. It is not feasible to shut off one compartment to be served by a lower temperature, so you will see it is very difficult to do full justice to the two different classes of fruit. At the same time, we consider it conclusively proved, that given the fruits under normal conditions, they can be carried together successfully, and should there be a failure or two, it is more likely to be due to the condition of the fruit when shipped, than to the system of ventilation employed.

7. We are only too anxious to consider any suggestions which the members of the Agricultural Society may offer from time to time, and the more light thrown on the subject, the nearer perfection we are likely to get. At the same time, everyone must recognise that there are great difficulties to be overcome before all parties can be satisfied.—We are,
etc., ELDER, DEMPSTER & CO.

J. & E. Hall, Ltd., Dartford, Kent, 1st April, 1908.
Messrs. Elder, Dempster & Co., Colonial House, Water St., Liverpool.

IMPERIAL DIRECT WEST INDIA MAIL STEAMERS.

Dear Sirs,—We duly received your letter of the 30th ulto., and carefully note the extract you give us from the letter you have received from the Colonial Secretary of Jamaica, dated 12th ulto. We have no hesitation in stating that the air cooling installations on the vessels employed in your service are working upon the system at present best known for the preservation of tropical fruit on a trans-Atlantic voyage. The refrigerating machines on all your vessels work on exactly the same system as that employed in the most recent examples of installations of this class, and you have to our knowledge from time to time, in the case of your older vessels, authorised and carried out minor alterations to the air circulation system, which had been found by later experience to give improved results. The designs of the installations on your S.S. *Port Henderson* and *Port Kingston* embodied the results of the experience with the earlier examples, but the system remains substantially the same on both these vessels, and on those which we have fitted up for Messrs. Elder & Fyffes, which latter, only differ from your vessels in matters of detail.—Yours faithfully, (Sgd.) H. J. WARD, Director.

Mr. McGrath said he had received the following letter from his London agents, Messrs. E. A. DePass :—

We have to thank you for shipment of 135 boxes grape fruit per *Port Antonio*, but have to report that the condition of these was terrible; so bad in fact, that our broker insisted on the writer coming down to inspect them, when he found them surrounded with sawdust to prevent them running all over the floor, and they consequently realised shocking prices, not making more than 2s. all round, while 11 boxes were worthless. There appeared to be not more than 25 per cent. of sound fruit in a box.

We enclose a copy of letter from our broker regarding this. What we can't understand is that the rest of the fruit out of the same boat was comparatively dry, and fetched from 5s. 6d. to 6s., and we are wondering whether the Direct Line people did not put them in the cold storage, which if they did not, is a great shame as they charge the same freight. We have written them on the subject, and perhaps you might take up the matter at your end.

Continuing, Mr. McGrath said, all he could say was that this fruit was shipped the same as his other fruit, and the only inference to be drawn from the correspondence was that this fruit was badly placed on the vessel. He thought the letter should be placed before the agents here.

After some further discussion and on inspection of the charts, it was agreed meantime to send the communication to the agents here and ask for an explanation.

Bulls. The Secretary submitted the following letters *re* bulls:—(1) Report from Mr. Arnett *re* Shorthorn bull "Henbury Favourite." (2) Letter from Mr. Calder *re* Shorthorn bull "Desmond," stating the bull's swollen knee was getting worse, and a later letter received at the meeting, stating the bull had been attacked by redwater, and there was little hope for him.

The Secretary was instructed to send a Veterinary Surgeon to Mr. Calder's at once to make a report on the animal if alive, and if dead, to make a bacteriological examination.

As regards the other bulls already resolved to be sold, the Secretary said His Excellency had expressed to him dislike of the idea of selling the King's bulls. Definite arrangements would require to be made next month about the sale of the other two bulls, which were not at present in good condition, but would require to be got into condition before being offered for sale. The suggestions in Mr. Arnett's report were instructed to be carried through. It was thought that it might be better to present the King's bulls to some dependable penkeeper on certain conditions, but the matter of disposing of the bulls was referred to the Live Stock Committee to make definite arrangements if necessary, without referring again to the Board.

Funds late Clarendon Agricultural Association. The Secretary stated that he had been directed at the previous meeting to submit ideas as to the way the £24 3s. 10d., to be handed to the Society, was to be disposed of by the Board for the furtherance of agriculture in Clarendon. He stated he had prepared some suggestions, but he also had asked Mr. Hirst, Instructor of Clarendon, to give his suggestions; Mr. Hirst had submitted better ideas than his. Mr. Hirst stated that there were very hard times in Clarendon and little work for girls, they had plenty of time on their hands and the opportunity might be taken to establish a hat industry, which was doing so well in other parts. The Secretary quoted the example of Hanover, where the classes had been phenomenally successful, and also Hampstead in St. Mary, and said the usual plan was that so many girls attended a class and subscribed a certain fee per week to pay for a teacher, rules were fixed, and the girls had to abide by these rules. Classes might be started in different parts of Clarendon, including the dry districts, while supplies of the straw could be drawn from the northern part, where the plant was growing in some quantity already. Mr. Hirst thought this would do more permanent good than the offer of special prizes in the Prize Holdings Competition.

The Board agreed that this was a suitable proposition, and that the money could be devoted for the purpose, under the supervision of the Secretary, the Instructor, the Branch Societies in Clarendon, and in co-operation with local committees, where necessary.

New Office. The Secretary stated that he thought that the Government would agree to the Board's request that the Parade Gardens house, shortly to be vacated, be rented to them as an office for the Society. The Director of Agriculture had agreed to recommend this, if the Society paid £4 a month rent, and the Government would put the premises and yard in proper order. It was agreed to arrange accordingly.

Marquees for Shows. The Secretary stated that as instructed, he had bought a large marquee, 40 by 20, and a small one, 14 by 14, for £6 and £3, respectively; they were in good condition, but he thought that one large marquee would hardly be

enough to hold agricultural products at shows, and that the opportunity for getting such marquees so cheap should be taken to buy another one. They could be hired out to shows, so that there would be a refund perhaps of the whole amount paid. He would get them painted with some preservative like linseed oil, according as he found on enquiry was best. He was instructed to buy another large marquee at £6.

The following letters from C. S. O. were submitted :—(1) No. 4397-5115, dated 30th April, 1908, advising that the Harbour Master inspected the *Port Kingston* which left on Thursday, 23rd April, and found that the terms of the contract had been fulfilled. (2) No. 4649, dated 7th May, 1908, advising that the Secretary of State for the Colonies had intimated that the estimated cost of Sea Island cotton for shipment in the West Indies in April, was 1/11 a lb.

The Secretary stated that samples grown in St. Elizabeth and sent to England had been valued at 1/7 to 1/8 for Sea Island, and 8d. to 8½d. per lb for Caravonica. (3) A letter advising the International Rubber Exhibition on account of the number of applications for space, had not enough room in the Agricultural Hall, and would be held at the Olympia, where it would be opened on the 14th, and close on Saturday, 26th September.

Affiliations. The following applications for affiliation by local Agricultural Societies, lately formed, were submitted :—(a) Hector's River (Portland), (b) Bull's Head (Clarendon), (c) Comfort Hall (St. Elizabeth).

Prize Holdings Competition. The Secretary stated that after correspondence with the Instructors in various districts, the following dates were suggested for judging the Prize Holdings Competition:—St. Elizabeth, in November; St. James, in January; Clarendon, beginning 15th February; and St. Andrew, immediately after.

He stated that hitherto Mr. Cradwick had judged in the Prize Holdings Competitions along with the Instructor for the district. Mr. Cradwick had fixed the scale of points at first, and it had always been thought that there should be another judge besides the local Instructor. However, under re-arrangements made by the Director of Agriculture, Mr. Cradwick would likely be confined to his own district, St. Mary and Portland, (1) as a matter of economy, and (2) not to be distracted from his work there. However, he (the Secretary) thought it a necessity to have two judges. It was suggested that as Mr. Cradwick would not be available, Instructors should exchange districts for judging. The Secretary stated that they would not be familiar enough with the districts to enable them to find the holdings easily. The matter was left over for further consideration.

The Secretary submitted several matters of difficulty with regard to two Branch Societies. The matter concerning Bath Branch was referred to the Finance Committee for settlement; and in the matter of the Hampstead Branch not having paid their affiliation fee for last year and this year, the Secretary was instructed to again write the Branch's Secretary on the subject, and state that if the fees were not paid at once the JOURNALS would be discontinued.

Auditor's Account. The Auditor's report for year ending 1908 was submitted and authority given for writing off of two bad debts for 15s. and for 3d.

Shows. The Secretary said he had written reports of shows he had attended, and they would be published in the next JOURNAL.

Instructors' Reports. He submitted the Instructors' reports and itineraries, the gist of which had already been published in the newspapers.

Mr. Craig said that since last meeting they had lost by death one of the members of the Board, Mr. John Cameron, and he moved that an expression of the Board's regret be recorded in the minutes. This was agreed to.

New Members. The following new members were elected:—C. M. Bethune, Bedford, England; M. C. Hendricksen, Cuba; Roderick Giscome, Annotto Bay; J. E. Blake, Pedro Plains; W. H. Coke, Mandeville; W. J. Russell, Spanish Town; N. P. Osborne, Linstead; R. E. Lindsay, Canal Zone; S. E. Warren, Truxillo, Honduras; E. J. Rainford, Half-way Tree.

General Meeting. It was resolved to hold the Half-Yearly General Meeting after the meeting of the Board, on Thursday, 18th June, 1908, at 12.30 p.m.

The meeting adjourned to Thursday, 18th June, at 11.40 a.m.

SHOWS.

PARTLY because of the earthquake, partly because of the long drought, and also because of the fact that no grants were given by the parent Society, no shows were held last year. The effects of the drought have not yet completely worn off; but stimulated by the resumption of grants and the knowledge that the support of the parent Society was again behind them, no fewer than four shows took place in April, all in seasonable districts, two of them new shows. We attended three of these, and are glad to give short reports on these.

The first to take place was at Mear's Pen, on Easter Monday, This was the second show held there under the auspices of the Rio Minho Agricultural Society. Mr. Davis, the President, and owner of Mear's Pen, again gave the use of the fine field, where the first show

was held, a flat piece of fine sward, lying between the road to Frankfield and the Rio Minho; besides this, Mr. Davis also gave hospitality to the Judges and others (which Miss Davis was responsible for carrying out, and did so with foresight and thoroughness), and gave much time and labour to the support of the show—for all of which, he and Miss Davis deserve and get the thanks of the Jamaica Agricultural Society.

The Secretary of the Rio Minho Branch, Mr. U. Theo. McKay, is one of the most energetic local secretaries we have, and throws his whole soul into this work. It is a big task to act as Secretary of a show, and carry through the work involved.

Mr. Hirst, the Agricultural Instructor for the district, had also applied himself for some time before to the working up of the exhibits for the show, and with good success.

The prize list was attractive, and one of the features of it was the offer of special prizes by His Excellency the Governor for the best exhibits of cocoa pods and cured cocoa, Calabacillo cocoa being specially barred, and this resulted in a great enquiry as to what this Calabacillo was: thus obtaining the results intended—to encourage enquiry into the merits and qualities of the different varieties of cocoa.

The day before the show, rain poured heavily in the Frankfield valley, but fortunately the show day was very fine. The Philharmonic Band from Kingston played on the ground.

His Excellency the Governor opened the show, arriving promptly at 12 o'clock, in company with Mr. and Mrs. R. Craig, the party having first a look at the exhibits.

The show of stock was only moderate, but the agricultural products section, in which we are most interested, was a big one.

The most remarkable feature of this show was the large entries in the different classes for cocoa, and another good feature lay in the way the exhibits were brought to the show, showing a remarkable advance on the first show held in the district at Frankfield, and a decided difference on the last show held on the same field two years ago. We do not know of many better exhibitions of cocoa that have taken place at any show. In quality, the cured cocoa had made great strides also, and there were some very good samples, while there were very few really poor samples.

The show of bananas was rather disappointing in number. The exhibits of vegetables and fruits were also very moderate, and the tubers—yams cocoas and sweet potatoes—could only be considered good if we allow that the drought had still its effect in the district, which no doubt it had. On the other hand, there was as good a show of peas and beans as anywhere, and there is evidently no lack of foodstuffs in Upper Clarendon. We like to see a strong show of local foodstuffs, and because it is an exhibitor's yams, or an exhibitor's peas, or an exhibitor's corn, there is no reason why they should not receive substantial prizes to encourage their better production. Whenever we relax attention to these, the day a show omits local foodstuffs from its prize list, scores of cultivators will

immediately relax their attention to them, and think that those who ought to know think ground provision no good again to grow, and that shop stuff must be favoured instead.

The corn crops have been poor, and the corn did not make any great display.

The exhibits of meals and starches were in keen competition as usual, and this is a useful section ; the women folks are very much interested in it, and hang on the judging keenly. We expected, however, a better turn out of cassava cakes. But how few people in Kingston use these to their coffee as they should do !

There was only a little more than a moderate display in the handicraft section and the women's work.

The exhibits of coffee were medium, and not what Upper Clarendon should be able to do.

The show of sugar was also disappointing, as the district is the best sugar producing district (for small settlers' sugar) in the island; at least, it gets that credit, but it was "not in it" with the show at Christiana the day after.

There were some very nice settlers' cows at the show, but the competition in the horse section was not as keen as it ought to have been.

There was very good competition in pigs, and a very poor display, as usual, of poultry.

Mr. Arnett brought down the Society's Welsh Stallion, "Sir Gerald," and four of his "gets," not yet in show condition, but very sturdy and handsome cobs, running 14 to 14.3, strong quarters, broad breasts, fine shoulders and short legs. Mr. Lopez of Dry River, showed a stallion, one of "Sir Gerald's" gets, almost the exact match of his sire.

In spite of the wet weather the day before, which no doubt frightened off a great number of people, thinking that the weather had at last broken, there was a very good attendance, the gate money, with a sixpence gate, amounting to £39. Prize money paid was £33 1s. 6d. Altogether, a most enjoyable day was spent.

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CHRISTIANA SHOW.—Very early in the morning the Secretary, with Mr. Martin, Mr. Arnett and Mr. Hirst, went on the 17 miles from Mear's Pen to Christiana, arriving at the latter place at 6 o'clock. The show was held right in the village on a field next to the market place, the market buildings being utilised for agricultural products, and Mr. Townsend's large house in the field, on a commanding situation, loaned for use for the Judges' luncheon and office. The admission here was a shilling, and a large crowd attended, even though the field was lying open to the public road, and quite a crowd took a free view from it.

The Christiana Agricultural Society is a most enterprising one, and they have a strong force of working officers. They have the honour of running the only agricultural loan bank in Jamaica, with £80 at its credit, the difficulty being now to find borrowers. They

had also many willing workers otherwise. Mr. George Bonitto, who has been so long Secretary of Kendal Show, came from Mandeville the day before, and gave his skilled help. Mr. Palache, the Instructor for Manchester, was master of the ring. Mr. Barclay was in charge of the agricultural products section along with Mr. Hirst, while Mr. Arnett showed his stock—the stallion, “Sir Gerald,” and some of his “gets,” as at Frankfield Show. Mr. R. J. Miller, the President of the Society, took charge of the visitors, and the Revd. Dr. Turner, assisted by Mr. Leslie, did the secretarial work. Very few shows have had such a staff of helpers, and it was well, there being a much larger show of exhibits than was expected. Yams, ginger, bananas and sugar made the finest and only exceptional displays.

There were thirty entries in ginger, cured yellow, cured blue and root ginger, and this took a great deal of judging. That this was good, was proved by the fact that the same man got first for yellow, first for blue and second in the root class. This was perhaps the finest show of ginger that has ever been made in Jamaica—although we are told there were more exhibits at Montpelier Show—but owing to the great press of exhibits and lack of room, they could not be staged properly. Five good prizes were offered in each of the ginger classes. The same applies to meals and starches which were out in great force, but lost a great deal of their effect through being packed so closely together, and with no time available for putting them in the show pans, so that they appeared in all kind of receptacles.

It was also the finest show of settlers’ sugar that was ever seen at a show in Jamaica within our knowledge. The exhibits of head sugar and ginger sugar were in the main, very nicely made, some being very artistically displayed. If there had been room to stage these properly, and they had been brought in uniform baskets, this class alone would have made a very effective and interesting exhibit.

The yams made everybody marvel. Almost every exhibit was brought to the show in a hand barrow, requiring the strength of two men—most weighed over 100 lbs. There is evidently no lack of feeding around Christiana.

The bananas were well displayed to set them off and made a great show. Special prizes were awarded, and the handsome amounts of these brought out good competition. The United Fruit Co. and Mr. George Webb, gave £2 each in addition to the four prizes offered by the show, and separate classes were made for fruit for the United States and United Kingdom.

The class of coffee was also very high, and the competition close, but there was not the display that the district ought to make. Mr. Hirst took time and particular care over the judging of this class. Three prizes of 10/6, 5/ and 2/6 were offered.

As this was a first show, the committee had gone conservatively about the business. The prize list was very simple, so that there were many more exhibits than what there were classes for, and at the

same time if there had been the full classes offered at most shows, there would have been a tremendous show of exhibits which the space would never have held. Thus, there were no prizes offered for handicrafts, but a good many exhibits of promising quality appeared, and were awarded prizes. No prizes also were offered for ladies' work, but a large number of exhibits came out, were classified, and judged.

The vegetable section was the poorest in the show, yet the district has the best of soils and climate for growing these.

There were not many exhibits of cocoa, but there were some fair exhibits of pods, and only two exhibits of cured cocoa. This, of course, has never been considered a cocoa-growing part of the island as it stands so high, but in the surrounding valleys much nice cocoa could be grown.

The show of stock was a very fine one for the first show, as the following number of entries will show:—68 in twelve classes of horsekind, 57 in seven classes of cattle, 17 in three classes for goats, 10 in two classes for pigs, 42 in six classes for poultry, 4 in one class for rabbits, and for the prizes offered by the Society for the Protection of Animals, 3 mules, 4 donkeys and 15 dogs.

His Excellency the Governor opened the show, and was received by a band of school children who sang appropriate songs. The same band that was at Mear's Pen show appeared at Christiana, and also played at a concert in the evening.

Christiana show was fortunate in having liberal subscriptions, large entries and a splendid gate, so that this little place drew more money than many very large shows, and will have a very substantial balance amounting to about £50, which, if we know the committee correctly, will be used very discreetly to enlarge the scope of the show next year, preparing the grounds for driving competition and shutting off the view from the road. The prize money paid was £35 10s. 6d.

The day was absolutely perfect, the grounds cool and breezy, the location a very fine one, and the whole show a very useful and profitable one.

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PORUS SHOW.—On Thursday, 30th April, Porus Agricultural Society held its first show at Arcadia Pen, kindly loaned by the Rev. Mr. Esson, President of the Society, who also acted as Treasurer for the show. Many of the show grounds in Jamaica have fine situations, and Kendal flattered itself that it had the finest, but all must stand aside before Arcadia, admirably named and admirably situated; it is only three minutes walk from the station. The pen is beautifully shady with trees of the right size, at convenient intervals for tethering stock, and the scattered showers through the dry weather, had made the grass green and short. This show had not had the advertising of Mear's Pen and Christiana shows, nor had the organization of the Porus Agricultural Society the same scope, so there were not so many exhibits as at those shows, nor did these exhibits embrace competition from so many different out-districts. Most

of the exhibits came from the immediate locality, or at furthest, Mandeville, and the names of some exhibitors occurred too frequently on the prize list.

The show offered good prizes in the stock section, and this ought to have induced more competition in all the events, but that there was considerable suspicion as well as apathy among the small settlers, was shown by the fact that the prizes offered by the S. P. A. J. for mule and ass in best condition, were hardly competed for. If another show is held at Porus, more notice must be given of the date, and more advantage taken of the other Branch Societies in Manchester and Clarendon to advertise the show.

His Excellency the Acting Governor, Hon. H. Clarence Bourne, and Mrs. Bourne, opened the show, with whom were the Custos for Manchester, the Hon J. P. Clark, Hon. Arthur Levy and others.

In the stock section, there were some anomalies. It is a moot question whether an exhibitor can enter both in the proprietors' classes and the small settlers' classes. The definition of a small settler must not in future vary at different shows. The usual definition of a small settler is, a "peasant proprietor who owns or rents not more than 50 acres, or who does not earn over 15s. a week." What the show lacked in quantity of exhibits in horses it made up for in quality. The cattle section was only fair. On the other hand both the goats and pigs were excellent; there was indeed a large display of goats, which seemed somewhat curious when there were so few entries for the S. P. A. J. prizes for mule and donkey in best condition.

The poultry section was very poor indeed.

In the agricultural products section there was nothing particularly noteworthy, except that there was a better show of vegetables than anybody thought there would be in that locality, and the cabbages were praiseworthy.

Every other section was mediocre. This also applies to women's work and school work, in which, however, there was plenty of competition.

The attendance was not quite up to the estimate, and with a shilling gate only drew £38. Prize money paid was £42 12s. Still, the show paid its liabilities, and had a small balance to the good. The fine band of the West India Regiment was in attendance and also played in the evening, when there was dancing in the field.

REGULATIONS REGARDING RAILWAY CONCESSIONS TO AGRICULTURAL SHOWS.

1. Exhibits will be charged full rates to the station nearest the place of exhibition but will be conveyed back free to the station from which they were sent, if returned within a week of the termination of the show, and if a certificate from the Secretary of the

show, that they have been exhibited and not sold, is handed in on consigning. If part of the consignment be sold, the balance will be returned free.

2. Freight will be charged on return exhibits not sent to the station whence they started.

3. Returns unaccompanied by a certificate from the Secretary of the show will be charged full rates.

4. For all exhibits which may have been sold, full rates will be charged for the return journey.

5. All exhibits to be loaded and unloaded by consignors and consignees, and to be entirely at "owner's risk."

6. The station agent must see that "owner's risk" notes are handed in with all consignments.

7. Five clear days notice should be given to the station agent of the number and description of vehicles required.

8. Judges of Agricultural Shows will be allowed return tickets at single fares, on presentation of a certificate signed by the Secretary of the show.

MULCHING.

WE have been consistent advocates of mulching, but do not hold out the adoption of the practice to mean, that on well mulched land, established in bananas and cocoa, rubber or coffee, or any staple crop, there will be no more trouble in cultivating, manuring, weeding, etc. We believe that in the long run for established cultivation of staple crops, mulching will mean a saving of continual expense, and a saving of, as well as an increase in fertility, besides consuming moisture.

The mulch in the first place is hard to get, is usually expensive to get, will indeed require to be provided for as a part of the estate routine, in the same way as sugar estates make the manure they apply, and it will require to be constantly kept up with fresh applications; sometimes too, scraped aside for awhile in long lines and re-applied. Then again, it does not answer on all soils; we are not sure of its precise effect for instance on heavy clay soils, but we are sure of its great value on soils varying from light sandy soils on to heavy loams. For our conditions, continual forking or ploughing through orange, coffee or cocoa cultivations, to keep the soil loose, results in harm, loss of moisture, loss of fertility, and damage to the roots and also the trees themselves, laying them also open to attacks of pests. A heavy mulch will be found, we think, the secret of the true cultivation of these staple crops, as well as many annual crops in the tropics. Occasionally lime, or a fertiliser rich in lime, like basic slag, might be applied as a corrective and preventive of acidity, which may be developed in the soil in certain wet seasons.

The experiences of men who are thinking over better systems and trying in practice to find best commercial results at the least expense, would be interesting and useful to us.

COCOA.

A FULL inquiry is being made in Trinidad, under the auspices of the Trinidad Agricultural Society, into the methods of growing cocoa there, and already some progress reports have been made by Mr. O. W. Barrett, who is making investigations.

At a meeting of the Grenada Commercial Agricultural Society, a discussion was held on these progress reports, in order to elicit information bearing on the methods of growing of cocoa in Grenada. The remarks of Mr. R. D. Anstead, the Agricultural Superintendent, are interesting and instructive to us here, and so we reproduce them.

Mr. Anstead said :—“ Gentlemen, I believe that it is your desire at this meeting to discuss the reports on cacao cultivation made by Mr. O. W. Barrett to the Trinidad Agricultural Society, and I am present to-day to hear your opinions of the views put forward by Mr. Barrett, rather than to express my own. I am very pleased, however, to have the opportunity of opening the discussion. I feel sure that Mr. Barrett desires full discussion of his views to take place, and though I feel that it may be rather presumption on my part to criticise an expert mycologist like Mr. Barrett, I am certain that, should he ever hear of my remarks at any time, he will accept any criticism I may make in the spirit in which it is made, a genuine desire to correlate his ideas to our local requirements, and arrive at the best methods of treating cacao so that it may produce the best results.

“ 2. I would ask you to bear in mind while discussing these reports, two things. First that the reports before us are only progress reports, or, as I believe Mr. Barrett prefers to call them, addresses, and that his technical report has not yet been received. At the recent West Indian Agricultural Conference it was decided to postpone any discussion in the matter until this technical report was available. Secondly, I would ask you to bear in mind that Mr. Barrett is speaking of cacao cultivation as he found it in Trinidad, and it is important to remember that the conditions which obtain there do not altogether coincide with conditions in Grenada.

“ 3. These addresses do not contain anything startlingly new ; in fact there are few recommendations put forward that have not been put forward from time to time by the Imperial Department of Agriculture or the local agricultural departments in the various colonies. The recommendations are presented in a new way, it is true, and Mr. Barrett has had the courage to bring into prominence what I may call the ideal side of hygienic cultivation, a point of view it is rather difficult as a rule to induce the practical planter to take.

“ 4. I propose to consider first the address on ‘ Pruning and Soil Cultivation.’ Mr. Barrett has not got much to say about pruning that is new to you in Grenada, and little that I have not had the pleas-

ure of saying to you myself at one of these meetings. He lays stress on beginning with the young trees, on making clean cuts close to the boughs so as not to leave stumps, and of the cleaning out of holes, and the antiseptic treatment of wounds. He gives us the recipe for a filling material for holes in the trees which we were in want of—clay and fibre. So far all the materials we have used here have shrunk away from the tree when they dried, and I am very glad to have Mr. Barrett's recipe. One of the most important things he says about pruning, it would be well for us in Grenada, where the pruning is distinctly good, to take careful notice of, and that is the tools which should be used—a double-edged pruning saw, a farrier's knife, or some sharp knife to trim the edges of the larger wounds, and to clean small, shallow wounds in the trunk or larger branches; gouge chisels to open out deep holes in the trunk, and an oil brush. Our pruning is mostly done with cutlass and knife, and I should very much like to see a saw introduced and generally used. I am of the opinion that it would pay us to train on each estate a few skilful pruners, who would prune carefully and properly, and pay them as skilled labourers. Also I should be glad to see resin oil tried and compared with tar as an antiseptic dressing for wounds.

“ 5. As to the use of a special pod-picker, I intend to say nothing here; it is a point on which I hope to hear the views of those present. I will merely lay on the table a photograph reproduced in the Trinidad Agricultural Society's Proceedings. (Vol. vii., p. 8) showing it in use.

“ 6. Now we come to the question of vertical forking and the cutting of roots. In Grenada, we have always obtained great benefit from our system of thorough forking, and where there is no mass of shade tree roots mixed up with the cacao roots, the breaking of the latter by forking is not a very serious matter. In our soapy clay soils the mere punching of holes with a fork would, I think, prove of very little use. This again is a point upon which I hope to hear your opinions.

“ 7. Mr. Barrett advises the use of lime with pen manure. This I can only attribute to an oversight or a printer's error. There is no doubt about the wastefulness of this practice; the lime will cause a big loss of nitrogen, the most necessary and the most expensive plant food. Lime must never be applied with any nitrogenous manure. This is not simply a fad of mine, but you will find it laid down among the elements in any standard book on agriculture to which you may refer.

“ 8. The advice given as to mulching is, I believe, most important. All over the world just now attention is being paid to the value of mulching and green dressings. At the recent West Indian Agricultural Conference, Dr. Watts presented some valuable information about it. In Dominica he has obtained some very remarkable results by mulching cacao trees with grass and leaves swept from

the lawns of the Botanic Gardens. This treatment has produced a heavy increase of crop as shown in the following table, (Annual Report Dominica Experiment Station 1006-7) :—

			No Manure.	Mulch.
			Yield in lbs. per acre of cured cacao.	
1903	-	-	1,138	1,300
1904	-	-	822	1,092
1905	-	-	1,009	1,338
1906	-	-	1,122	1,724
1907	-	-	1,095	1,743
Total for 5 years	-	-	5,186	7,197
Average for 5 years	-	-	1,037	1,439

“ Dr. Watts says in this connection, ‘ When the general health and growth of the trees on the plots are taken into account, it is at once seen that the individual trees on the mulched plot are much finer and better developed than those on the other plots : the soil is also better. It is moist, friable and full of humus, and in a better condition generally, which would appear to ensure good crops for some time to come. These results are so remarkable that I would strongly urge you to give mulching a fair trial. If after forking, the land was kept covered to a depth of about six inches with a layer of grass, bush or similar vegetable matter, probably forking would not be necessary so often, and the improved physical condition of the soil alone would give an increase in crop. The question of finding sufficient material to mulch large areas is a difficulty, and it may be necessary one day to grow crops for the purpose. To the small owner this is no difficulty, however, and I would advise peasant proprietors to try mulching for the next few years, especially after forking.’ ”

“ 9. With regard to cover crops of leguminous plants, the difficulty has always been to find something which would grow under cacao. Mr. Barrett says the cowpea will, and I think this is a valuable hint, and worth a trial.

“ 10. I notice that Mr. Barrett advises that a compost should be made of the cacao shells. Here we have not done this, because we have been afraid of spreading the spores of ‘ *diplodia* ’ from the infected pods with the compost. I am, however, not myself convinced that a safe compost cannot be made with the use of earth

* It is our experience that cowpeas will not grow satisfactorily under shade of any kind. The wild gongo (or congo) pea (*cvotalaria striata*) is in use here and in Ceylon, and is most satisfactory. This is a plant which grows by the wayside in all seasonable districts, but though a weed, will never become a pest. As a rule among the weeds which grow through banana and cocoa plantations, about one fourth are leguminous.
—ED.

and lime, and this is a matter I propose to take up again and investigate in the coming year.

" 11. With regards to diseases attacking the cacao, special stress is laid upon the careful antiseptic treatment of all wounds, and this opinion was confirmed by Mr. Stockdale, the mycologist of the Imperial Department of Agriculture, at the Agricultural Conference, who in dealing with the subject of the 'sanitation of cacao orchards,' emphasised this point and the importance of clean cultivation, and the removal of all dead and dying wood from the trees and ground. Mr. Barrett recommends that all dead and dying pods should be removed from the trees, say every 10 days or so, and I believe that this practice would greatly tend to reduce the ravages of *diplodia*, which now does so much damage in Grenada. As to the matter of spraying cacao for disease, I know that it is a delicate subject here, and the physical difficulties of spraying in this mountainous island are in many cases insuperable. Still the principle is sound and the matter worth your serious consideration.

" 12. The vexed question of shade I need not touch upon, as we do not use shade trees for cacao here. We all agree with Mr. Barrett, I suppose, that wind belts are necessary; and I think the most important question in this connection which we have to ask is: of what our wind-breaks should consist, and our thanks are due to Mr. Graham Lang for showing us the probable answer to that question is—'Rubber.' "

"General discussion followed Mr. Anstead's address, and many questions were put to, and answered by him.

"The opinion of the meeting was almost unanimous that vertical forking would not be of any use in Grenada.

"The mulching idea aroused general interest, and many pertinent questions were asked and answered by the Agricultural Superintendent.

"The canker question was also discussed. When canker was discovered the infected parts should be at once cut out; if necessary the tree should be cut down to the ground, and a sucker encouraged to replace it. If roots are infected, they should be dug out and burned, and the spot thoroughly limed.

"Mr. H. A. Berkely called the attention of the meeting to some remarkable results he had obtained on Mount Horne Estate by applying to mountain cocoa a fertilizer consisting of 8 cwt. Basic Slag and 1 cwt. sulphate of potash per acre. This in two places had given an increase of crop amounting to almost 100 per cent., and it had lasted for over three years. Similar results, however, had not been obtained with the same mixture on flat lands at lower elevations."

ONE woman who does her own work keeps a bottle of vinegar on her kitchen sink. After having had her hands in soapsuds for any length of time she rinses them with vinegar. This counteracts the alkali in the soap, helps to remove stains and keeps the hands soft and smooth.

BUD-ROT OF COCOANUT TREES.

IN further reference to the diseased cocoanut trees on this property, some of which were treated by Mr. Cradwick, you will remember

- (1) By trenching 3ft. by 2ft. 6ins.
- (2) By spraying with Bordeaux Mixture.
- (3) By dressing with Iron Sulphate.

You may know that I am now of opinion that in one or two trees there is a decided increase in the number of cocoanuts holding on the bunches, and a stoppage of the dropping of large, blighted nuts. I am not yet satisfied however, that this is caused by the spraying, but as the general improvement of the field is so great since the breaking of the drought, it is hard to say with certainty whether the result has been achieved by the spraying. The trenching I cannot yet see has made any difference. Some time ago I wrote very hopefully of the result of my burning trees that were sick. I am sorry to report now that most of those trees that had apparently recovered and thrown out entirely clean, new leaves, have gone back again. Mr. Cradwick was good enough to visit the field again not long ago, and we agreed that I should go through carefully and regularly and burn, to check the spread of the disease. I propose to keep open the trenches, and when Mr. Cradwick is able to return, we hope to try a more detailed and larger experiment with the spraying. I may say that trees sprayed on a neighbouring estate are reported as holding the cocoanuts remarkably better. I may also tell you that I heard lately that Mr. B. C. Orgill says that some 30 years ago, when he owned a place near here, the same cocoanut disease was rampant, and only by constant, regular burning did he stamp it out; even then, it returned after ten years had elapsed. It (burning) would therefore appear to be a preventive and not a cure. I do not, in spite of all the learned opinion to that effect, believe it is a question only of drainage, as trees die in such different soils and position in the same walk. I trust you will keep this matter moving and before the Instructors, and if you could get some scientist to examine the trees for bacteria on the spot, it might tend to useful results; it certainly would be a most serious calamity, especially to this otherwise resourceless district, if the cocoanut industry were to fail us.

Priestman's River.

LEO. A. WATES.

[We are glad to say that the Society's Instructors are also on the look out for traces of bud-rot on the cocoanut trees in their districts, and they have hitherto, according to orthodox, been advising the spraying of Bordeaux mixture for this trouble, as used elsewhere, where the disease is more prevalent than here. Burning the tops, is a kill or cure method, but it has been shown to be effective for many years past, and if carefully done, the proportion of "kills" should be small. We understand that the Instructor

for St. Mary and Portland, Mr. Cradwick, will be able to devote close and continuous attention to this disease during the next three years. In next month's JOURNAL we shall publish some further information and experiences in this connection.--Ed.]

“CHINA” PIGS.

AT one time in Jamaica the most common kind of pig was what was called the “China” breed, a small, black, close-quartered short-nosed, quick-growing, easy-fed animal. It was of easy, contented disposition, not given to wandering or boring through fences, and if at freedom could feed itself on grass, weeds, roots, grubs and beetles. At six months it was full grown, at nine months fat, and at twelve months almost too fat to walk. When killed it was mostly lard, with very little lean. This small kind of pig suited the local butchers who had not much ready cash at hand, and suited the wants of the country people who liked fat pork and could render from it lard for home use, but it did not suit other wants. Plenty of people had good feeding to spare, and wanted large pigs from which hams and sides of bacon could be cured for home use and for sale. And as we imported between £6,000 and £7,000 worth of bacon and hams generally, it was thought that some persons might make it a business to start a bacon-making business; that there might even be a large factory for doing this. Before this could be done, the right kind of pig must become plentiful. A good many planters and penkeepers had at times imported Berkshire pigs from England, and Poland China pigs from the United States for themselves. In 1905 however, the Agricultural Society imported at one time ten boars, and sent them for service throughout the island. These were all black breeds, as it was considered from experience in hot countries, that white and red pigs would not stand the sun so well. The Essex breed is short and close-quartered, and one boar was brought out along with the long-bodied breeds mentioned, to introduce fresh blood among the China breed. Thus all purposes would be served.

The effect of this large importation, however, was to raise an enthusiasm for large pigs, and at shows small settlers vied with each other in sending huge hogs. We have seen them 600 lbs. weight. In a few years the small China pig was crossed almost out of existence, and I hardly think that at this time (1908) a true specimen can be found in the island. This is a great pity, for it served its special purpose well. It has been found by experience that the large, long-bodied pigs require a great amount of feeding, and if they do not get plenty, grow slowly and are hollow-backed, long-legged and lank, and even with plenty of food, are most often still slow to grow, because our foods are mostly very starchy and sugary, consisting principally of green bananas, cocoe heads, and sugar cane, and not much corn, with plenty of cocoe stems and sweet potato vines. But there is not enough of the bone-making and flesh-

making elements in this feeding, in proportion. When cocoanuts are cheap, a little of this is fed in a few limited districts. Then these big pigs are great rogues and can hardly be left running free, as they wander so much, and break through fences. But if confined and well fed with a handful or two of corn a day, in addition to the feeds mentioned, and if they are kept clean, they will grow to a great size in eighteen months to two years.

The short type of sow can be bred at six to eight months before it gets too fat; the large type, not before ten months, but at any rate, not until the eye judges the sow is full grown. There is a medium type between the two which is a very useful pig, and which can be bred at eight to ten months. Only a full grown, mature bear, should be used, and one service is enough. It is a mistake to allow more, and does no good to either animal.

When pigs have freedom to run about, they can be kept from wandering too much by feeding them a little twice a day, using the same call so that they will soon know it. The litters can be weaned from the China sows between a month and six weeks old.

An effort has of late years been made by us to get a few careful pig breeders to look out for and breed pigs as near the type of the old China as possible, and by introducing Essex blood to these to breed back the old type. Any one wishing to co-operate could let us know.

Our imports of lard have increased from 96,186 lb., costing £1,803 in 1903, to 166,619 lb., costing £2,776 19s. 8d. in 1907. Increase of population cannot account for this increase; increased spending power may account for it, but the disappearance of the China pig largely accounts for it we think.

LIME AND SALT SPRAY FOR FRUIT TREES.

WE have published some articles on the lime, sulphur and salt spray for dealing with white scale on orange trees. In a list before us, there are twenty different washes or sprays commonly used for different kinds of scale insects on fruit trees; yet not one of these was found to be effective in dealing with the San Jose scale, which attacked the orange trees in California, and other fruit trees in other parts of the United States. And so after much experiment, a lime, sulphur and salt wash was found to be effective against that particular scale. So, here, all the usual sprays and washes, such as kerosine emulsion, rosin wash, tobacco and soap wash, castor oil emulsion, were not found to be effective against the white scale when tried. The lime, sulphur and salt wash was then recommended to be tried carefully. The result of the treatment of the trees by this particular compound, have not been prolonged enough or closely enough watched to know how effective it will be.

We notice that in Great Britain a lime and salt spray—without the sulphur—has been found effective against insect pests, which seem to be proof against all the other spraying fluids tried, and if

we could find here, that this would be quite as effective as the lime, sulphur and salt spray, the omission of the sulphur would make the spray cheaper. At the same time, many of the sprays used here do not seem to be sticky enough to have any prolonged effect, and this has been found to be the case in the United Kingdom also, so that after further experiments silicate of soda or water glass has been added to the lime and sulphur. We accordingly give some particulars of this wash taken from the *Fruit Grower* of London:—

“In the discovery and application of practical methods of dealing with apple sucker, plum aphid and American blight, experiments with lime and salt have been carried out all over the country by individual growers, by Professor Theobald at Wye College, by Mr. K. G. Furley, for the Worcestershire County Council, and by myself. The results of these experiments have been so convincing that a resume of my process with additional information to date, will, I am sure, be welcomed by readers of the *Fruit Grower*. It has been impossible for me to reply to the many letters received all over England during the past season, so I will endeavour to answer their questions in the limited space of this article.

LIME AND SALT v. SPRAY FLUIDS.

“During my four years’ experiments on fruit trees I have failed to find a chemical or combination of chemicals that will corrode or dissolve eggs of the apple sucker, and from the many tests and experiments carried out under the microscope with various chemicals, including solutions of carbolic acid, sulphuric acid, copper sulphate and ammonia hydrate (the latter being a standard solution for dissolving cellulose), I have come to the conclusion that the egg is so well coated that a mere spraying with a chemical liquid to dissolve the egg is money wasted and labour in vain.

“Again, if the base of the bloom bud be examined under an ordinary lens, it will be found to be covered with fine hairs, and the eggs are carefully laid in the crevices of the bark. This hair acts as a thatch and throws off any liquid, so that it will be clearly seen how difficult it is to attack the eggs with spray fluids. It is also impossible to see whether any part of the tree has been missed, unless some lime or other colouring matter is added to the mixture.

“The advantages of lime and salt are as follows :

“1. The action of the salt in thick limewash is mechanical and appears to penetrate the egg. The lime quickly drying on the trees apparently re-absorbs the moisture, and later the eggs are found to have changed from bright yellow to a leaden colour and are also contracted at one end. As a double shot, if the tree has been carefully sprayed with an even coating of the wash, any eggs that hatch out, the insects will find great difficulty in penetrating the lime which collects, especially around the spurs where the eggs are laid.

“2. The cost compares very favourable with the other washes, and although the one-quarter of the wash remains on the tree during spraying operations, the cost is considerably reduced, as that which falls to the ground is very beneficial as a manure in dissolving

organic matter and rendering the potash and phosphates soluble in the soil for the immediate benefit of the tree.

“3. American blight is completely cured by this process, and the tree assumes a clean appearance, free from moss and lichen.

“4. Last, but not least, it can be easily seen whether any part of the tree has been missed or badly done.”

RATS.

WE see in the JOURNAL for March last, on page 88, a letter from Mr. A. N. Dixon, New Ground, Lime Hall, and also a note commenting on same, on pages 91 and 92, as to the importance for combined and sustained efforts to be made for the destruction of rats. We have been endeavouring for some considerable time, through the medium of the JOURNAL, and other publications, and by circulars, to draw the attention of those interested, to the Liverpool Rat Virus as a remedy to check the number of the rats. The consumption of the Liverpool Virus in Jamaica, however, points to the fact that only a comparatively few use it in a systematic manner. We understand that one of the essential particulars in connection with the Liverpool Virus, *i.e.*, the preparing of the bait, is often done in a slovenly or careless manner—slovenly on account of the treatment the contents of the tubes receive, and careless, owing to the lapse of time that occurs between the date of the receipt of the tubes of Virus and the day the bait is prepared. The Virus should be used immediately on receipt, and the directions given with each tube carefully carried out. If this is done, good results will be obtained.

In order to make the Liverpool Virus more widely known, and at the same time show how the bait ought to be prepared, we have arranged with Mr. M. Roberts, Bog Walk (who is at present in England), to give on his return to Jamaica, a limited number of free applications of the Virus. Anyone desiring to take advantage of this offer may address Mr. Roberts at Bog Walk.—EVANS' SONS, LESCHER & WEBB, LTD., 56 Hanover St., Liverpool.

[We shall be glad to receive applications, in case Mr. Roberts, who is off the island, may not have returned when this JOURNAL appears—Ed.]

HOW TO USE BISULPHIDE OF CARBON.

FOR HORSES OR CATTLE.—Mix with *thin* gruel (flour pap). There is no danger; I have given a lot of it and even humans have had it administered I believe.

FOR RATS.—Referring to paragraph in JOURNAL of April, page 115. I fancy rats do not *appreciate an odour*, and it does not scare them, but water, I think, they would know by instinct, and

avoid. I have proved the use of bisulphide of carbon and it is the best thing, I consider, to get rid of rats.

EMPTY HONEY COMBS.—This is the best fumigation for bee moth.

FOR TICKS.—Put clothes with ticks in a closed vessel with bisulphide for a quarter of an hour, then air them, and they can be put on again, as the odour soon disappears with free air currents. I have to do this every day.

If one had a box that could hold a dog, with an opening, like those steam bath chairs for the head to come out, it would be an ideal thing for fleas.

Stewart Castle, Duncans.

C. T. DEWAR.

[These are good ideas, and it would not be difficult to construct a box with a hole in a sliding lid, made in two halves, so that they could slide in to catch the dog by the neck. Dogs' lives are made miserable by the number and tenacity of fleas that frequent them, and which the strongest wash seems unable to kill. —Ed.]

THE RIGHT POSITION TO PLANT COCOANUTS.

CAREFUL experiments were carried out by the Director of Agriculture in Madagascar, with a view to determine which was the most favourable position in which to plant cocoanuts. Five plots of fifty nuts each were planted with all the nuts in each plot placed in a certain position, as follows :—

Plot I. Nuts placed vertically, pointed end downwards.

„ II. „ „ „ „ „ „ „ upwards.

„ III. „ „ „ on their sides, pointed end downwards.

„ IV. „ „ „ „ „ „ „ „ upwards.

„ V. „ „ „ „ „ „ „ „ quite horizontally.

The nuts germinated in all these positions, but a smaller quantity in some positions than in others, as the following results show :—

Plot I.	..	66 per cent. germinated.
„ II.	..	48 „ „ do.
„ II.	..	86 „ „ do.
„ IV.	..	72 „ „ do.
„ V.	..	84 „ „ do.

So the best position in which to plant cocoanuts appears to be *on their sides*, either quite horizontally or with the pointed end turned downwards, while to plant the nut vertically with the points either upwards or downwards, gives the most unsuccessful results.

This is how we do in Jamaica, that is, plant nuts on their sides, and it is the natural method ; for when the nuts fall from the tree they lie upon their sides, and if left, germinate thus.

Another series of experiments was, to ascertain the depth at which the nut should be buried in planting. The results showed

that either burying the nuts in soil just up to the middle or level with their tops is the method most to be recommended. The germination of nuts simply placed on the soil without burying, was much later than that of nuts which were more or less covered with soil.

COMMENTS.

ENTIRE HORSES BILL.—In the minutes, as published in the *MAY JOURNAL*, in connection with the proposed “Entire Horses Bill,” the printer unfortunately omitted to insert the discussion that took place on the subject, so that it would appear, from the minutes, that the bill, as passed by the Legislative Council, had been accepted by the Agricultural Society as the bill submitted by them; while, as a matter of fact, the most essential parts were altered or left out.

In the discussion that took place at the meeting of the Board of Management in April, Mr. Craig contended that if the bill could not be accepted, as proposed by the Agricultural Society, it should have been returned to the Board and not put before the Council and passed in a mutilated form.

Mr. Craig said, that in doing this, he considered the Society has been grossly misrepresented, and certainly not treated with the courtesy it had every right to expect from the Government.

His Excellency said that all bills brought forward in the Legislative Council had to be preconsidered by the Privy Council. The Privy Council had considered this bill, and recommended a somewhat modified form of it, which had been submitted to the Legislative Council, and they passed it.

Mr. Campbell said the feeling was that the bill would fail in its purpose, because the essential parts had been taken out.

Mr. Craig said the bill was certainly not the Agricultural Society’s bill, and they repudiated it.

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WEATHER.—May had gone, and still no “seasons” rains. Everybody, whether in town or country, felt very anxious over the drought. In a few districts good showers had fallen, and there had been a little rain nearly everywhere in the last week of May, but these were only local showers, not from the sea and not general. What we required was a wall of rain to come up from the south, accompanied by thunder and lightning, then we should have felt satisfied. But at last, our normal weather has returned. On the morning of the 2nd of June heavy rains commenced over the island, north and south, east and west, sea board and inland, all alike, heavy, as we learned by telegram the same afternoon. Anxiety was relieved, people splashed through the water cheerfully and smiled at the downpours. All the week the first column in the newspapers that readers looked at was that dealing with the amount of rain that had fallen in the country. People chuckled over 4

inches falling here, were deeply interested in 7 inches falling in another place, and felt very happy over 10 inches which had fallen in some other place.

In the first week of June, the general rainfall was 8 to 12 inches; in some places 12 inches fell in 24 hours, but mostly it was a good, steady downpour, not "torrential." Although a little damage to crops, cultivations and roads, was to be expected, the rain came as nicely as could be desired, and we are thankful.

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COTTON.—The results of cotton growing this year in Jamaica appear to be half of an ordinary crop. Considering the weather was entirely abnormal, in every respect—abnormally dry when it was wanted for planting and growing, and showers in February, when it is usually dry, and then drought again, a half-crop is a really surprising result. It has been too dry to attempt spring planting in most places where people wanted to plant, but we hope and anticipate the weather will behave, as it is usually expected to do in August, and admit of planting and a good growing start. Some are planting in June now to make sure of a good start.

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BRANCH NOTES.—We wish to call all readers attention to the Branch Notes in this issue, from which may be noted the value of these organisations, in discussing and stirring up interest in many subjects of vital interest to small cultivators, as well as large planters. These organisations have, for instance, enabled us to call general attention to the loss caused by rats, and to secure general co-operation in the war which has been proclaimed against these destructive pests. Then, Branch Societies are interesting themselves in the roads of their districts, and their local industries, to help on the old industries, and to try and find ways and means of starting new ones. The girls of many districts will benefit by the starting of classes in hat-making. Whatever other things they are able to earn money at now, whether it be housework, fieldwork, dressmaking, or all of these, the art of making jippi-jappa hats can be learnt by many at a small cost, and will be useful to them; many women will be able to make a decent livelihood by it, as we know a good many who are doing well at it now—making anything from 2s. 6d. a week to 12s. a week, according to the skill and time given to the work.

These Branch Notes are more than usually worth reading this month.

BRANCH NOTES.

Mocho and Brixton Hill.—We had a meeting of the Branch on Thursday, the 14th ult. Your letter *re* rats was discussed at the March meeting and also at this meeting. The members pledged themselves to

unite and wage war against rats, and also to get others to help. Mr. Hirst gave a helpful address on cocoa-growing and curing. This district is not a cocoa growing one. The people grow a little, and so it was thought wise to help them in doing it well. The advisability of starting a jippi-jappa hat industry was also discussed. Steps will be taken to find out the number of young people who would pay for instruction for say, three months. Our next meeting comes off on the 11th June.—J. AUG. RHODEN, Secretary.

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Hector's River.—I am pleased to say that since I last wrote you we have formed our Society, and are now applying for affiliation. The affiliation fee and a copy of our printed rules are herewith enclosed, also a list of the names of members. It may be interesting for you to know that our Society has been formed with a visit from Mr. Cradwick, who gave a very instructive lecture to a large audience here on the 13th April; as an outcome of his visit, we have now on hand the business of getting up a little show to come off shortly, and we are also making a jippi-jappa hat-making class. Our members are anxious over getting their JOURNALS, and I trust you will find it convenient to forward them early.—E. J. JACOBS, Secretary.

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Balaclava.—On Monday, 18th ult., Mr. J. T. Palache visited this Branch. The lecturer's visits are always accompanied by rain. This was no exception. To the delight of all, after a prolonged drought, a magnificent shower began to fall at about 2 o'clock, and continued for several hours. Despite the rain, Mr. Palache with his customary punctuality, put in an appearance at the hour fixed. The attendance might have been larger, but under the circumstance, the lecturer was not disappointed, and a pleasant and profitable hour was spent. The Branch is interesting itself in two important roads, one through the district of Marlborough, and the other through the Evergreen district. The matter is to be brought to the notice of the Manchester and St. Elizabeth Parochial Boards, with a strong appeal to have these placed on the schedule and be properly worked. Mr. Palache gave useful instructions as to the cultivation of minor products, and dealt exclusively with the cultivation of corn in particular. The lecturer emphasised the importance of (a) careful preparation of the soil, (b) planting at regular distances in drills, (c) selection of seeds, (d) hybridising.—A. A. DORAN, Secretary.

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Central Cornwall.—The regular quarterly meeting of this Branch came off at Cambridge schoolroom on Friday, 10th April. There were present: the President; the Travelling Instructor, Mr. Mennell; many other members and some visitors. Much important business in connection with the Branch was transacted. It was found necessary to get placards for the announcement of meetings, but the getting of them was deferred till the next meeting. Mr. Mennell spoke on the starting of a jippi-jappa hat industry in connection with the Branch. It is now being arranged to start the industry. The President impressed the good to be obtained by direct exportation of agricultural products. The members of the Branch are bestirring themselves and things are beginning to look up bright again. Beautiful showers of rain are falling regularly at some parts of this district, while there is scarcely any rain at some parts. Crops are looking up splendidly. The vegetable seeds have not done as well this year as in the past years. The following gentlemen have become members of the Branch: Rev. A. H. Aguilar, Messrs. William Plummer and Joseph Downer.

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Comfort Hall.—On Monday, 18th ult., an agricultural meeting was held here, when the agricultural lecturer, Mr. Palache, was present. The first business of the meeting was the advisability of starting a Branch of

the Agricultural Society at Comfort Hall. Mr. Palache advised the working of a sub-Branch to the Balaclava Society. After a lengthy discussion, it was agreed on to start the Society on its own footing, as no good could result by the connection with Balaclava. Mr. Palache's lecture on "coffee as a product which will always be in demand," was very forcible. He emphasised the effect of good cultivation on the quantity and quality of the coffee. He very clearly pointed out the possibility of the settlers improving this staple article by better methods of curing, causing a greater demand in the markets and a consequent rise in price. He closed with "Jamaica as an agricultural country needs a larger agricultural population, and when this end be reached and right methods adopted, then this country will have footmarks on the sands of time to inspire some who may have lost all hope in their social and material improvement." The lecturer was accorded a hearty vote of thanks, and in reply, he gave some very encouraging and helpful hints. The following were appointed officers of the Society:—Mr. R. A. Munroe, President; Rev. A. Brown, Vice-President; Messrs. A. Dwyer and D. S. Williams, Secretaries; John Lalor, Treasurer; and T. J. Bromwell, Uriah Hibbert, James Saunches, Henry Foster, Jno. Newman, David Blake and James Newman, members of the executive. After some useful suggestions were given, the meeting was adjourned until the 20th July.

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Hanover.—This Branch met in Lucea, on Saturday, 9th ult., 1908. The President, C. A. Cover, Esq., B.A., in the chair. The rules, giving a full list of the chairmen of the various districts, had been printed and distributed. The Secretary stated that at the request of the Deeside Branch, he had given information about the starting of a class for teaching jippi-jappa hat making. The circular issued by the Secretary of the Jamaica Agricultural Society on rats was read. The members promised to do what they could in the matter. Our show will be held on the 3rd August (the public holiday). His Excellency the Governor expects to be present. The Secretary saw him in Lucea, and while his Excellency could not give a definite promise, he expressed his willingness to come if it were possible. It was too early to give a definite promise, especially in view of his going to England. It was noted with satisfaction that the Society for the Protection of Animals in Jamaica had granted 30s. for first and second prizes for the mule, donkey and dog in best condition, belonging to small settlers. The Jamaica Agricultural Society has sanctioned a show grant of 20 per cent. of the prize money actually awarded, up to a total of £10. Read letter from Mr. Barclay about judges. A list of the judges was drawn up. The prize lists would be distributed during the following week.—JOHN F. GARTSHORE, Hon. Secretary.

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Rio Minho.—A meeting of this Branch was held in the Park Hall schoolroom, Monday, 25th ult., at 6 p.m., Mr. J. Hirst presiding, in the absence of the President, who is ill. There were present among others:—Messrs. Edward Woolley, James Chambers, Edward Robinson, Joseph Cameron and P. Brown. There was also a fair attendance of girls interested in the jippi-jappa hat industry. **CANES.**—Those who planted the seedling canes from Hope, reported that owing to the drought, the cuttings had not done well. Mr. Wooley reported that his were growing well indeed. **JIPPI-JAPPA.**—Those who were supplied, reported that they were growing well. **CUPID'S ROAD.**—The Secretary reported that the Parochial Board of Clarendon, having received the resolution of the Branch *re* the road through Cupid's, had sent Mr. McGann, the Superintendent of roads, to survey the road through the place, and it is hoped that work on this road will soon be started. A useful discussion took place, on the circular letter from the Secretary of the parent Society, *re*

the killing of rats. Mr. Hirst suggested organised rat hunts at times. The members agreed that the rats were becoming a most serious pest, and pledge themselves to wage war against them. **HAT INDUSTRY.**—A class to teach the girls jippi-jappa hat industry has been formed, and it is expected that the hat instructor will take up the work in June. There is much enthusiasm displayed in this matter. **ROOSTER.**—The buff-Orpington rooster for the Society has died, and a black-Orpington will be bought in his place. Messrs. M. L. McKay and Joseph Cameron were elected members of the Society. Fine showers are falling and drooping hearts are cheered. Date of next meeting, July 8.

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Port Royal Mountains.—The general meeting of this Branch was held at Mount Fletcher, on Saturday, April 25th. There were present: Rev. C. H. Coles (V.P.), Messrs. W. G. Thomson (V.P.), R. S. Henry, Thomas Davis, R. S. Tait, Thomas Tait, J. S. McDermott, Thomas Davis, Charles Davis, Robert Robinson, Thomas Jackson, James Jacobs, Jacob Hall, Robert Simms, C. C. Ireland, Alexander Roberts, C. L. A. Rennalls (Secretary), and other members. The minutes of last meeting were read and confirmed. The Secretary read letters from the Parochial Board re the grant, which was voted and withdrawn, also relative to the request for the improvement of the bridle road between Silver Hill and Mavis Bank. The Secretary also read a letter from the Colonial Secretary, intimating that it is not likely that the driving road will be completed as far as Mavis Bank by July. It was unanimously agreed to postpone the show, in view of the unfavourable reply from the Board, also as the driving road will not be completed, but more especially because of the continued drought, which is practically burning up everything in the district. It was decided to have a sub-Branch formed in the Clifton district. The Rev. M. A. Baquie was then introduced and elected a member, after which he addressed the meeting in encouraging terms. The Clifton sub-Branch held a meeting on Saturday, May 2nd. The Rev. C. H. Coles, Chairman of the sub-Branch, then gave a report of the proceedings of the meeting at Mavis Bank. The members present approved of the Green Grocers' Association, and some promised to co-operate. The subject of forestry was discussed. It was agreed to observe Arbour Day by planting trees on the rectory and school grounds, also by distributing plants to the members. A sub-committee was formed to carry out the same. The following gentlemen received their membership: Messrs. W. H. Landale, J.P., Pleasant Hill; R. Sidgewick, Clydesdale; A. J. Teape, Silver Hill; D. H. Campbell and S. Duncombe.

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Maidstone.—A meeting of this Branch was held at Nazareth, on April 28th, 1908. There were present: Revd. J. E. Harvey (President), Messrs. S. Morris, W. T. Holmes, A. Welsh, L. Welsh, James Smith (Sr.), James Smith (Jr.), D. Grant, A. Gale, J. B. Thompson, M. Carnegie, J. Bailey, I. Lyons, James Foster and the Secretary. The minutes of the last meeting were read and confirmed. Mr. J. T. Palache, who should have been present to address the meeting on Agricultural Loan Banks, did not turn up. A correspondence from the Secretary of the parent Society, calling attention to the rat pest, etc., was read. The meeting was impressed with the seriousness of this pest and entered on a hearty discussion of the subject. Various methods that are being used for the capture of these animals were described. A very simple but successful way of catching mice (which, by the way, is just as destructive, if not more) was told us by Mr. J. B. Thompson, teacher at Medina. It is this: Place in a kerosine pan a few grains of corn, put the pan in their way, they will go in freely but cannot come out. [We find a rat can jump out of a kerosine tin easily; we caught two in a trap and dropped them into a tin, and they came out with one jump, quick as a shot.—ED.] All

who were present have promised to do their best towards the extermination of this destructive pest. And as a means towards this end, the Society is in favour of traps and cats for the yard, and poison for the field. An agricultural fork, purchased out of the funds of the Society, was presented by the Secretary. After some discussion on how the fork can be useful to the Society, it was agreed on to lend any member desiring it for two days (at any one time) and return to the Secretary. At the next meeting, which will come off on the last Friday in May, Mr. S. Morris is to give a lecture on bee-rearing, and Mr. James Smith (Sr.) on horses, the special treatment required in these mountains. The weather is getting quite dry. If no rain falls within the next two weeks the peas and corn crops will be "clean gone." An unusually large crop of pimento is being gathered now. It is looked upon generally as a God-send to meet the taxes.—J. A. MAXWELL, Secretary.

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St. John's.—A meeting of this Branch was held at Kitson Town, on the 16th ult., at 4 p.m. Among those present, were Rev. W. Burke, Messrs. E. J. Hendriks, S. A. Banton and W. Wilson. After the reading and confirmation of the minutes, the committee which was appointed at last meeting, to forward a petition in regard to the lack of water supply in this district to His Excellency, reported through the Secretary, that the said petition was favourably received by His Excellency. On the motion of Mr. Banton, seconded by Mr. Hendricks, and carried unanimously, Messrs. J. B. Edwards of Spanish Town and S. O. Miller of St. John's Road, were elected members. The Secretary read a letter from J. Barclay, Esq., showing the advisability of destroying rats. The members were of opinion that the gentleman should receive the thanks of this Society for his interest shown in the matter. All were of opinion that trapping the rats would be the safest means of getting rid of these pests; as to poisoning them, that method could not be advocated in our district, as we depend chiefly on stone-holes and ponds for water. The following three resolutions were moved and unanimously carried: (1) "Knowing that the rainy seasons generally follow the dry ones, and knowing that this district is devoid of springs and rivers, whereby the inhabitants are handicapped for water, *resolved*, that the Parochial Board of St. Catherine be again respectfully approached, in order that the tank at Kitson Town, which is near completion, be completed in time to catch water when it rains. (b) Because as the tank stands it cannot fulfil the purpose for which it was agreed to be constructed. (c) For whenever it does not rain, for any imaginary offence or for the sake of self-protection, the taxpayers of this district are prevented from getting one of the greatest necessities of life." (2) "In order to remove any misunderstanding, or in order to be able to put forward the grievance of this district, which is real and not imaginary as some might think, *resolved*, that the Parochial Board be asked to receive a deputation from this Society, consisting of the following three members, *viz.*, Messrs. S. A. Banton, E. J. Hendriks and E. Wilson, at an early date, to have an interview on this most serious water question: for this Society is of opinion that the members of the Parochial Board are not aware of the sufferings of the inhabitants, otherwise there would be no delay in taking necessary steps to relieve the people." (3) "This Society beg to say that from the fact that the tank at Kitson Town is somewhat unprotected and left to the people at large; be it resolved that the management of the said tank be left in the hands of the members of the St. John's Agricultural Society (after its completion)." The Secretary presented his reports (a) as Secretary and (b) as Treasurer; in the former, among other things, are the following:—During the latter part of the last year, the drought showed us how necessary for us, as a people, to unite in order that when we speak we may do so as one man. Since then, I am glad to say that never in the past had there been more interest shown. During that period when there was no meeting, I wrote letters regularly,

perhaps more than many other Secretaries, to the general Secretary. I had also kept him fully informed of that never-to-be-forgotten drought, which played havoc to cultivation. Seeds were thankfully received and distributed. The Treasurer reported that he had received subscriptions from J. H. Peck, Esq., M.D.; H. A. Smith, Esq.; and Messrs. W. Wilson, E. J. Hendriks, F. N. Hatchet, and Miss F.M. Fuller. Members were asked to fulfil their obligations in every possible way. NOTE.—Sunday, the 17th, makes it four weeks since we have not got any rain. Since then, great hardships prevail among the people. A water famine stares us in the face. People have to travel five miles and more for water. Long distance water fetching is what all reasonable men must deplore, on account of its concomitant evils. Travelling such long distances tends to demoralise the young and make a poor people poorer.—S. A. BANTON, Hon. Secretary. P.S.—That we were having rains since February to a part of April is a fact, but owing to the great droug't last year, coupled with the physical condition of the soil, we are suffering far more than last year this time.—S. A. B.

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Darliston.—A special meeting of this Branch was held at the Enfield schoolroom on Friday the 1st May, at 9 a.m. There were present: John W. Mennell, President; H. D. D. Mennell, Agricultural Instructor; Messrs. R. A. Anderson (M.P.B.), J. W. Philp, Jas. Levy, James Stewart, James Harvey, W. Smalling, J. A. Crooks, P. James, C. McKenzie, Alfred Spence, R. Smith, and J. H. Hedley, Secretary. In addition to the above named members, there was a goodly attendance of many who were not members. The President said he had informally and very hurriedly called this meeting, in order to do honour to those small holders who had won prizes in the Small Holdings Competition. The Instructor had told him a few days ago that he had got the prizes and that he was going to give them to the winners, upon which, he (the President) thought that the prizes should be bestowed on the winners with as much publicity as was possible in so short a time. The Instructor agreed with him, hence this meeting. The President then asked the Instructor to call out the names of the successful candidates as follows:—

I.	J. Williams	4th Prize, 1st class	£1	5	0
II.	W. R. Smalling, Lenox Bigwoods	5th „ 1st „		15	0
III.	Philp James, Ashton	4th „ 2nd „	1	10	0
IV.	Edwin Thompson, Carmel	1st „ 2nd „	3	0	0
V.	Charles Miller, Onniston	5th „ 2nd „		10	0
VI.	James Levy, Happy Retreat	Special Prize, no class		10	0
VII.	Benjamin Forbes, Deleon Bigwoods	„ „		6	0
VIII.	Whitred Gale, Chilton District	1st Prize 3rd class	2	0	0
IX.	Gustavius Smith, Deleon Bigwoods	2nd „ 3rd „	1	10	0
X.	John Albert Crooks, Lenox „	3rd „ 3rd „	1	4	0
XI.	Charles McKenzie, Ashton	4th „ 3rd „	0	16	0

The Instructor presented each of the above men with a cheque for the amount of the prize, and a lithographed certificate of the prize for which he had successfully competed, accompanying each prize with a few congratulatory words of commendation for work well done. At the same time giving kindly words of warning and encouragement as to little defects that caused the value of the prizes to be reduced in such cases as it was needful. The President in closing the proceedings, congratulated the prize winners on their success, and hoped that such success would be an incentive to them to push on and not to rest, as well as those who had competed out had not obtained the prize. He was sure that not only were the Agricultural Instructors doing good work, but the Prize Holdings Competitions were of the utmost value, and he congratulated the Darliston Branch on so many of its members having obtained prizes. This terminated a very pleasant little meeting. It may not be out of place here to remark that the Instructor of this district, Mr.

H. D. D. Mennell, has been always discharging his duties faithfully and well, and we therefore wish him every prosperity in his sphere of labour.
—J. H. HEDLEY, Secretary.

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Stewart Town.—The monthly meeting of this Branch was held on Friday evening, 22nd ult. Mr. John Stockhausen presided. The Chairman stated that owing to the drought, the cotton seeds planted had sparsely grown, but that the peas had grown nicely. Now that we are having the rain, fresh seeds will be supplied. He advised the shareholders not to be discouraged. The Secretary read a letter from the Superintending Medical Officer, stating that Stewart Town is in the medical district of Duncans, and that Dr. F. A. G. Purchas, Clark's Town P.O., is the D.M.O. The Secretary informed the meeting that he had got a letter from Dr. Purchas, stating that Stewart Town had always been attached to Ulster Spring for medical purposes, and that he had written the Superintending Medical Officer on the matter, and when he had got his answer he would write further on the subject. Mr. Stockhausen reported with reference to the petition he had prepared, got signed and forwarded to the Parochial Board of Trelawny, *re* the widening and improvement of Road No. 136, leading to the Dornoch River Head; the Board, had through their clerk, replied that they did not see their way to accede to the request of the memorialists; but on further writing to the Board on the subject, proving the necessity for the improvement asked for, the Board had favourably reconsidered the matter, and the result was they had recommended a grant for the purpose. The grant had subsequently been stated to be £20. The memorialists, many of whom are members of the Branch, feel grateful to the Parochial Board for the allocation. On the suggestion of Mr. Charles McFarlane, a hearty vote of thanks was accorded Mr. Stockhausen for his persistent efforts in moving the Parochial Board to increase the grant on the road. The road leading from Belmont Gate, Manchester Pen, into Liberty Hall and Friendship Mountains, was next brought up, but it was decided that in view of the fact that the Parochial Board had just made a grant for widening and improving Road No. 136, it is advisable to allow the matter to remain in abeyance for the present, although the road is greatly needed. The progress of the penny bank in connection with the Society was noted. For the nine weeks since the Bank has been in operation, the amount of £19 0s. 3d. had been deposited. Of this amount, £16 had already been lodged in the Government Savings Bank. A discussion on rats was one of the chief items on the agenda. Mr. Stockhausen led the discussion. He said, not only were rats destructive to agriculture, but they were also the means of conveying disease. He instanced the bubonic plague that has appeared in some countries, being transmitted by rats. The only remedy he would suggest is by judiciously setting poison for them; and the best poison for them, as had found out by experience, is "Roth's and Ringeisen's Phosphor Paste." He had found that arsenic on potatoes was also effective in destroying them. A member asked about Rat Virus, but as no member of the Branch had ever used it, no experience could be given. Mr. Roper said he had bought arsenic and set it in his field for rats, but it had not had any effect, as the rats were still as troublesome as ever. It was thought it was not arsenic he had got. As the idea that burning the land kill worms is still prevalent among many of the small settlers, the subject was again discussed, and the Chairman explained, for the benefit of those who were not aware that the caterpillars that eat our cabbages, corn, etc., are brought into existence by moths that lay their eggs on the leaves—that when the land is burned very few such worms, as eat cassava tubers, are killed—so then, burning the land instead of killing worms, impoverishes the soil. There are cases however, when fire is necessary—to kill stumps and useless trees, whose roots would interfere with our root crops. The items on the agenda being disposed of, the meeting terminated.—
JOSIAH JOHNSON, Secretary.

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BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Thursday, 18th June, 1908, at 11.40 a.m. Present: His Excellency Sir Sidney Olivier, K.C.M.G., presiding; the Hons. L. J. Bertram, Dr. Pringle, R. P. Simmonds, Bishop Collins, Messrs. D. Campbell, Robert Craig, Joseph Shore, and the Secretary, John Barelay.

Apologies for absence were received from the Hon. H. T. Ronaldson, Mr. E. W. Muirhead and Mr. L. P. Kerr.

The minutes of the previous meeting having been published in the current month's JOURNAL, were taken as read and confirmed.

Shipments of Fruit. The Secretary submitted reply from the Agent of the Direct Line, with regard to the complaint by the Hon. Geo. McGrath, as to the condition of his fruit on arrival in London, which stated that the fruit had been stowed in the extra ventilated holds of the *S. S. Port Antonio* in the same way as the 1,259 boxes of citrus fruit carried for other shippers, about which no complaint had been made. The Secretary stated that he had sent a copy of this letter to Mr. McGrath, and read his reply accepting the assurances given.

Bulls.

The Secretary reported the death of the King's Shorthorn bull "Desmond." As directed at last meeting, when he had reported the illness of the bull from red water, he had immediately asked Mr. Linton, Veterinary Surgeon, to go to Worthy Park and report on the bull, and telegraphed Mr. Calder to this effect; also asking him if the bull died meantime to keep the body for examination. Mr. Linton, however, received a message from Mr. Calder at Ewarton that the bull had died, and that he had disposed of the carcass, so that there was no use coming over. He (the Secretary) had submitted Mr. Calder's report, as to the examination he had made to the Veterinary Surgeon for his opinion, but the latter could not give this on such meagre details. He (the Secretary) had circulated the papers to the Live Stock Committee for their opinions, but they had not been returned yet.

His Excellency said that he had had the honour of an interview with His Majesty, who had expressed great interest in the agriculture of the island, and he (the Governor) had mentioned their appreciation of the gift of the two bulls. He did not think it

would be a proper thing to sell the gift of the King. The Board agreed that the Hereford bull should be placed with some responsible penkeeper on certain conditions.

The Secretary mentioned, with regard to the other bulls, that the matter of their sale was still occupying the attention of the Live Stock Committee.

Funds late Clarendon Agricultural Association. The Secretary said he had not received the money proposed to be handed over to them by the Trustees of the late Clarendon Agricultural Association. It seemed that the matter of doing so was not quite so simple as had been at first supposed, and there first had to be an advertisement published in the newspapers asking if there were any objections to the proposal.

New Office. The Secretary reported that he had inspected No. 11 Parade with Mr. Muirhead and Mr. Ronaldson, and they would be the most suitable premises they could find in the city within their means. The Government proposed to put the yard and premises in proper order and charge £4 per month rent. He had also met the Acting Director of Agriculture and the Acting Director of Public Works, at the request of the Government, and consulted about these repairs. He hoped they would occupy the new premises by September.

Rubber Exhibition. The Secretary stated that he could send commercial samples of rubber from Castilleja trees, if he could get anyone competent to tap the trees. He submitted letter from the Acting Director of Agriculture, advising that samples would be sent by him from the Laboratory. The Secretary was asked to do his best to get commercial samples.

Deputy Chairman. His Excellency said there was a letter from the Colonial Secretary's Office to the Secretary, which he had caused to be written, suggesting the appointment of the Director of Agriculture as Deputy Chairman in the room of Mr. Fawcett, but he would not press this. He thought, however, that Mr. Cousins should be a member of the Board, and he would defer the matter to the Half-yearly General Meeting. This was agreed to.

Steam Road Rollers. Letter from C. S. O. was submitted, intimating that provision had been made in the estimate for the current year for one steam road roller to begin with, and it was hoped further provision might be made next year.

Inspection Direct Line Steamers. 5,789-6,668, 9/6/08; 5,861-6,783, 11/6/08. Letters from C. S. O. were submitted, intimating that the Harbour Master had performed his usual inspection of the S. S. *Port Henderson* and S. S. *Port Antonio*, which left Kingston on the 7th and 21st May, and of the S. S. *Port Kingston*, which left on the 4th June, and had found that they complied with the terms of the contract.

**Import Duty on
Live Stock.**

6,028-7,052, 15/6/08. Letter from C. S. O. was submitted, advising that at the recent session of the Legislative Council the following resolution had been passed :—That it is desirable that the tariff be amended, to enable pure bred horses, cattle, sheep and pigs, imported for breeding purposes from British possessions, India and the United States of America, to be admitted free of duty.

Rat Virus.

The Secretary read the following letter from Messrs. Evans' Sons, Lescher & Webb, Ltd.,

Liverpool :—

We understand that the Government of Jamaica levies a duty on the "Liverpool" Rat Virus, as being in the nature of a poison similar to the phosphorus, arsenic, etc., preparations that are on the market. There is, however, no comparison between the two articles, as the "Liverpool" Virus for rats is a bacteriological product and should rank for duty free in a similar way as with Anthrax Vaccine and other kindred products which are permitted to enter duty free, and we think it would be a move in the right direction if the influence of the Jamaica Agricultural Society could be brought to bear on the Governor of Jamaica to have a law passed allowing rat virus to be imported duty free, and thus enable cocoa-growers and others to reap the full benefit of their industry.—EVANS' SONS, LESCHER & WEBB, LTD.

The Secretary was instructed to make representations to the Colonial Secretary supporting this contention.

Hurricane and Earth-quake Insurance. Letter and rates from Head & Co. were tabled.

**Report Experiment
at Yardley Chase.**

The Secretary submitted a report from Mr. Palache on the conditions in South Manchester and Southern St. Elizabeth, and also report of the experiment ground at Yardley Chase. It was resolved to make a grant not exceeding £10 each, first for the purchase and distribution of seeds and plants to deserving small cultivators, and second, for the continuation of the experiment in growing Sea Island cotton and provisions by Mr. Palache's methods.

**Show Accounts and
Show Tins.**

The Secretary submitted statement of show accounts for Mear's Pen, Christiana and Porus shows, and reported that they had received grants of £6 12s. 3d., £7 2s. 1d., and £8 10s. 5d. respectively. These were confirmed.

The Secretary submitted sample of a new show tin, which he thought would be easier to handle and be more effective in displaying exhibits than the ones presently in use, and it must soon be necessary to get some more. The matter was left over meantime.

**Instructors' Reports
and Itineraries.**

The Secretary submitted the reports of the Instructors for May, and their Itineraries for June, which he had carefully checked. He read extracts from Mr. Arnett's report *re* white scale, Prize Holdings Competition and cotton, and from Mr. Hirst's report *re* small settlers' cotton in Vere. (These extracts are printed in this JOURNAL).

He was authorised to help in marketing the small cultivators' cotton in the way suggested by Mr. Hirst, as far as he could. The

Secretary said that Mr. Hirst had, through circumstances in connection with his work as Instructor, to devote practically all his time to the work in April, May and June, instead of eleven days a month, and he asked that he be permitted not to make up an Itinerary of regular engagements for July. He would still have certain meetings to attend that month that were already arranged. This was permitted.

The following new members were elected :—E. Glen Campbell, Kingston ; K. Th. Einerson, Baracoa, Cuba ; K. Sadolin, Guantnamo, Cuba ; Surgeon Bros., Bocas del Toro ; A. L. Pfinder, Cocalas, Guatemala.

HALF-YEARLY GENERAL MEETING.

THE Half-yearly General Meeting of the Jamaica Agricultural Society was held at 82 Hanover Street, on Thursday, 18th June, at 12.30. Present :—His Excellency, Sir Sydney Olivier, K.C.M.G., presiding ; Hons. Dr. Pringle, R. P. Simmonds, His Lordship Bishop Collins, Messrs. D. Campbell, Robert Craig, J. Shore, A. C. L. Martin, J. H. E. Hemans, Geo. Payne, Geo. Thomas, Rev. Leo. Jones (representing Moore Town Branch), J. Hirst, Major Marescaux, and the Secretary.

The Chairman said the report of the last half-yearly meeting was published in the February JOURNAL, and asked if it would be taken as read and confirmed. This was agreed to.

The Secretary presented the half-yearly report to the 31st March, together with the statement of accounts and the reports of the Instructors as follows :—

I HAVE the honour to submit my report for the second half of the year ending 31st March, 1908, as follows :—

BOARD OF MANAGEMENT.—During the six months, three ordinary meetings of the Board were held in October, December, February, and the half-yearly general meeting on 12th December, 1907. For the year, seven Board meetings, two General meetings, and six meetings of Committees have been held—total nine. Matters referred from the Board for consideration by the various Committees, are now mostly dealt with by circulation of the papers among the members, free postage being allowed for this purpose.

The attendance was as follows :—

	Ordinary.	Half-yrly.	Total.	Prev. Half yr.	Total. for yr.
His Excellency Sir Sydney Olivier, K.C.M.G.	3	1	4	2	6
Hon. Lieut.-Col. C. J. Ward, C.M.G.	—	—	—	—	0
Hon. Dr. Pringle, C.M.G.	1	—	1	1	2
Hon. H. Clarence Bourne, C.M.G.	1	—	1	2	3
Hon. L. J. Bertram, C.M.G.	1	—	1	2	3
Bishop Collins	1	—	1	1	2
Robert Craig	3	1	4	4	8
D. Campbell	2	1	3	3	6
John Cameron	1	—	1	1	2
C. A. T. Fursdon	—	—	—	4	4

	Ordinary.	Half-yrly.	Total.	Prev. Half yr.	Total for yr.
Lionel P. Kerr *	1	—	1	—	1
Hon. Geo. McGrath	1	—	1	4	5
E. W. Muirhead	2	1	3	2	5
Hon. H. T. Ronaldson	2	1	3	2	5
J. Shore	1	—	1	2	3
Hon. R. P. Simmonds	3	—	3	2	5
R. A. Walcott	—	—	—	1	1
J. R. Williams	1	1	2	2	4
Hon. W. Fawcett *	2	1	3	2	5
John Barclay	3	1	4	5	9

In the first half of the year, Bishop Collins, Dr. Pringle, Mr. Cameron, Mr. Shore and Mr. Fawcett were away from the island for a period.

* 2. Mr. Lionel P. Kerr was elected a member of the Board in place of Mr. R. H. B. Hotchkiss, who is now residing off the island.

* 3. In April Mr. Fawcett retired from his position as Director of Public Gardens, held for 20 years: for eight years he had acted as Deputy Chairman of the Agricultural Society. A resolution of the Board regretting his retirement was passed at the April meeting and recorded on the minutes—page 146, JOURNAL for May.

4. Since the date this report is made up to, it is regretted to record the death of Mr. John Cameron, who died at Spanish Town in May.

The chief business transacted by the Board during the six months has been as follows:—

WEST INDIA AGRICULTURAL CONFERENCE.—The idea of holding this Conference in Jamaica again—so abruptly terminated the year before—was considered to be desirable, but as the necessary steamship connection at Barbados for delegates from the other parts of the West Indies could not be obtained by the diversion of one of the Direct Mail Steamers as last year, principally because the delegates from the United Kingdom were not inclined to visit Jamaica two years in succession, while the Royal Mail Steamers had not suitable connection, the proposal had to be abandoned. The Conference was, therefore, held in Barbados, the Hon. W. Fawcett and J. R. Williams being representatives from Jamaica. A report from Mr. Williams was published in the JOURNAL for March, page 68.

BOARD OF AGRICULTURE.—On the nomination of the Board, the Governor appointed Mr. E. W. Muirhead to act on the Board of Agriculture in room of Mr. C. A. T. Fursdon, resigned, and Mr. D. Campbell as the Agricultural Society's second representative. (JOURNAL for November, 1907, page 254).

DIRECT LINE STEAMERS.—The subject of the fruit accommodation on the Direct Line Steamers has again been under discussion, owing to the protest sent to the Board about the bad condition of oranges on arrival in London, shipped on the S. S. *Port Royal* on 24th October, 1907, and the S. S. *Port Kingston* on 7th November, 1907, while fruit from the same shippers at the same time sent by Elder's & Fyfe's steamers *via* Port Linon to Manchester arrived in good condition, thereby pointing to faulty treatment on the Direct Line Steamers. The Government was asked to point this out to Messrs. Elder, Dempster & Co., and ask for explanation, which was done. Further information is expected.

A copy of a report made on each Direct Line Steamer leaving Kingston, by the Harbour Master, that the terms of the contract under the law had been complied with, has been regularly forwarded to the Board. (JOURNAL for November, 1907, page 255, January, 1908 page 1, March, page 66).

DUTY ON IMPORTED STOCK.—A resolution asking for the withdrawal of the import duty on stock imported for breeding purposes was again sent to the Government, and it is now learned that it will be withdrawn. This duty was £3 on horses, £2 on cattle, £1 on asses, 10s. on sheep, goats and pigs,—poultry being free. (JOURNAL for December, 1907, page 253).

IMPORTATION OF INDIAN CATTLE.—In continuation of the efforts to get the restrictions against bringing cattle of Indian breed here direct from India, and to secure better facilities for doing so, the Government advised that in order to conform with certain restrictions of the Indian Government existing still (that such cattle could only be carried on emigration ships if for Government purposes), persons desiring to import should notify the Colonial Secretary, as Chairman of the Board of Agriculture, when such cattle should be imported as for Government purposes, as being a policy of public advantage to the island. (JOURNAL for January, 1908, page 57 and page 68.)

GOVERNMENT VETERINARY INSPECTOR.—The Board passed a resolution (as mentioned in last half-yearly report, page 31, JOURNAL for February) calling the attention of the Government to the desirability of having a Veterinary Inspector for the island subsidised by the Government. The Government has since replied that such an appointment was not necessary in this colony, and that the expense of providing for it would not be justified. (JOURNAL for September, 1907, page 164, and March, 1908, page 69).

CONTAGIOUS DISEASES ANIMALS LAW.—The Board, at the request of the Government, and after long deliberation, amended a proposed Contagious Diseases Animals Law (published in the JOURNAL for 1906, page 154) and sent the revised draft law on to the Government with a resolution asking that it be considered. This matter, however, has not yet been disposed of. (JOURNAL 1905, pages 126, 193; 1906, pages 4, 50, 132, 154, 291; 1907, pages 128, 212; 1908, page 49).

PREMIUMS ON IMPORTED LIVE STOCK.—The awards of the premiums of £10 each offered for the three best bulls imported of Shorthorn, South Devon, or Red Poll breed, £3 each for the best three boars, imported, and £4 each for the best four ram goats of milch breeds imported in 1907, were made. There is a balance left on this account of £13 8s. 3d. for use in any special matter in connection with the live stock industries. (JOURNAL—page 216, October, 1907; page 254, November, 1907).

ROADS.—A resolution recommending the use of steam road-rollers for the roads of the island, as a matter of efficiency and ultimate economy, was sent to the Government in December, and a reply was made that provision would be made in the estimate for 1908-1909 for the addition of steam road rollers. (JOURNAL for January, 1908, page 3).

RATS.—Reports of great loss caused by rats, especially in cocoa cultivations, continue to be made. Various preparations of rat virus have been tried and continue to be used, but results vary. The preparations have not appeared to withstand the heat of this climate. Samples of the preparation, "Ratin," were tried by members of the Board, but the effect was reported to be more in the nature of a quick poison than a bacteriological preparation. The Island Chemist is carrying through experiments with the view of producing a powerful rat virus adapted to our conditions. The first results from this undertaking of letting inoculated rats loose in rat infested places as a test, have had good effects reported.

The Secretary communicated with all the Branch Societies, pointing out what destructive pests rats had become, stating what measures could be taken to destroy them, and asking the discussion of the subject and the co-operation of every member in constant effort to destroy these animals. The subject has been in this way brought to the attention of

small cultivators all over the island. (JOURNAL for August, 1907, pages 122 and 138; September, 1907, page 166; October, 1907, page 209; March, 1906, page 88).

DROUGHT.—Grants to the extent of £20 were made to purchase and distribute seeds and plants to distressed cultivators in St. Elizabeth and Manchester to enable them to plant food crops immediately rains come. Beans, peas, potato slips, and cassava slips were distributed. For this purpose also, the *Gleaner* newspaper contributed £20 from their fund, and Dr. Neish, Spanish Town, gave £2, all to be administered through the Society. In addition, His Excellency the President gave £5 to cover the Instructors additional travelling expenses in devoting extra time in the most distressed districts, and also £2 to enable the Instructor to carry through a small cotton-growing experiment. An additional grant of £10 was made by the Board to enable the Instructor to undertake an experimental provision ground at Yardly Chase, St. Elizabeth, to illustrate his theories of thorough breaking up of the land and thick mulching before the rains, as the most effective methods of cultivation for the district.

There was practically no rain to start the crops off, and the beans and corn failed, but the sweet potatoes and cassava have grown and borne. The site of the experimental ground was not chosen to be as favourable as possible, but is on the edge of a wind-swept cliff, 1,600 feet above the sea. (JOURNAL for September, 1908, page 171; October, page 217; November, page 252).

WHITE SCALE ON CITRUS TREES.—Attention having been called by correspondents to the prevalence of white scale, especially on lime trees, and to the loss of these trees caused by it, the matter was considered, but no recommendation made to the Government. The Secretary was instructed to direct the Instructors' attention to this pest, and to publish as much information on the subject as possible, so that steps might be taken to check it. The unusual prevalence of this scale was attributed to prolonged drought, and it was thought that after good rains came it would be less virulent. In some private citrus groves, continued efforts have been made to combat this scale, but so long as nothing is done by neighbouring owners fresh hosts are carried. Reference has been made in the JOURNAL to this matter, in hope of stirring up more general effort to deal with it, and full particulars of washes to be used have been published. (JOURNAL for October, page 214; March, page 251 and 277; January, 1908, page 53).

TICKS.—The subject of dipping tanks for the treatment of ticks on cattle has been discussed in connection with the offer of Cooper & Co., Berkhamsted, England, to erect such a tank in a central situation suitable for a group of penkeepers to use, and the proposal referred to Mr. E. W. Muirhead and the Secretary to be arranged for, if it was found the tank would be utilised and supported. Long continued dry weather—empty ponds and tanks—has delayed consideration of the matter. (JOURNAL for May, page 143).

DETERIORATION OF HORSES.—This subject was considered and a resolution sent to the Government, recommending the placing of an "Entire Horses and Asses Bill," on the lines of the bill introduced but not passed in 1889, on the Statutes imposing a tax on all entire horses, mules and asses. (Pages 70 and 72, JOURNAL for March, 1908).

The Government introduced a bill on the same lines, but not covering the entire recommendations of the Society. The Board objected to this bill as not the one recommended by them and as not fulfilling the objects aimed at.

PRÆDIAL LARCENY.—At the last Half-yearly General Meeting this subject was brought up by the members and discussed. An opinion having been expressed that public feeling on the matter was not apparently very strong or more would be heard of it, the Secretary thereafter asked the

various Branch Societies to discuss the subject and state their opinions. This was done very thoroughly, and reports published in the newspapers and recorded in the JOURNAL for February, March and April. It is now likely that some action will be taken by the Government to amend the laws in this connection. (JOURNAL for February, page 39, and March, page 70.)

PRIZE HOLDINGS COMPETITION.—This competition was held in Westmoreland, Hanover, and St. Mary, and resulted in much larger competition in Hanover and St. Mary than in the previous round, as follows:—

Hanover in 1903-04	-	72 entries.	1907-08	-	100 entries.
Westmoreland "	-	93 "	"	-	90 "
St. Mary in 1902-03	-	11 "	"	-	95 "

176

285

Mr. Cradwick judged the competition in Westmoreland and Hanover, along with the Instructor for the district, Mr. Mennell, and made full reports with the awards to the Board. In St. Mary, Mr. Arnett judged along with Mr. Cradwick, this parish being in the latter's district. The reports show that competition was very keen, that the total points being equal in some cases, prizes had to be divided. An additional amount of £20 6s. was awarded in St. Mary, the first three prizes in each class being doubled; this amount was given from a St. Mary's Agricultural Fund held in trust for the encouragement of agriculture in St. Mary by the most effective methods as approved by the Trustees.

SHOWS.—The allocation for grants to shows which has been discontinued on the estimates for three years through lack of funds with unquestionably depressing results, was enabled to be replaced for the following year by an increase of the Government grant, and has caused a resumption of activity in this direction among Branch Societies; most of the old established shows are to be resumed, and new shows, under the auspices of the Branch Societies are proposed to be held in 1908-09. Shows were held at Trinity Ville, 26th December, 1907, and at Appleton, on 1st January, 1908, both with encouraging results. The Appleton Branch started in 1905; in April, 1906 they held a small show, paying £4 in prizes; in December, 1907 they held their second show, paying £13 in prizes, and in January, 1908, their third show was held, at which £34 was paid in prizes. (JOURNAL for March, 1908, page 71). The Trinity Ville Branch is the oldest Branch Society, and after many ups and downs, still continues in active operation, and purposes holding a larger show in the coming year.

GRANTS.—The following grants were made during the year:—£20 for seeds and plants, on account of the drought in St. Elizabeth; £10 for experimental provision ground in St. Elizabeth; £2 for experimental cotton growing plots in Trelawny and St. Ann; and £5 for experimental cotton cultivation at Rio Bueno. All these amounts were transferred from the allocation for rent which has not been used. (JOURNAL for January, 1908, page 68).

BULLS.—Owing to the difficulty of making the bulls presented to the Government by His Majesty the King and Sir Alfred Jones, which were placed in the care of the Society, a financial success, and the continual shifting of them from place to place—new locations and new studmasters with different methods—evidently not being conducive to the health of the animals, so that they got out of condition, necessitating patient treatment, it has been resolved to take steps to sell them, on condition that they are retained in this colony. (JOURNAL for March, 1908, page 71).

STALLION.—Owing to the great drought in St. Elizabeth, the Welsh pony stallion, "Sir Gerald" had not a good season, only serving nine

mares there. In the off season he was brought to St. Andrew, but drought was also bad there and only two mares were served. For season 1908 he was sent to St. Ann, from January to March, care of J. C. McIntyre, Claremont, and thereafter, care of Mr. E. Arnett, our Agricultural Instructor. This stallion improves as a foal getter, and in the quality of his stock as he gets older.

INSTRUCTORS.—The Instructors have continued actively at work. They have regularly submitted their proposed itineraries and their actual itineraries as carried through, to the Secretary on the printed forms provided for the purpose, together with reports and comments on their work and observations as to weather, crops, etc. The Secretary has regularly checked these and at once called attention to any unexplained discrepancy. They keep constantly in touch with the Branch Societies, and as far as possible attend the Branch meeting, at least once a quarter.

Mr. Palache has attended most of the bi-monthly Branch meetings during the past year, but on account of the increase of Branches and the amount of work and travelling involved, he reports he has to discontinue this, and make his visits once a quarter.

Mr. Palache has done a good deal of special work in connection with the drought in St. Elizabeth, and in the distribution of seeds and plants to small cultivators there. It must be recorded that there was no trouble and work too much for Mr. Palache to take, and was willing to take in this matter.

As regards Mr. Arnett's work, there has been a good deal of interruption in his routine, through his being called on to assist in the Teachers' Agricultural Course at the Mico College and to judge the Prize Holdings Competition in St. Mary. The first of these should, however, be useful to him also, as it brings him into touch with the teachers, some of whom are from his district, and who may yet become interested in the work of Branch Societies. As regards the latter, it has been so far considered necessary to have two Judges, the Instructor for the district and another. Through these interruptions, however, he has missed his usual quarterly visits to some of the Branch Societies, and they do not like this. Mr. Arnett is, however, getting his work, in giving demonstrations in small settlers' cultivations, so systematized, that in some parts where he has been able to do this, and so to have his visits arranged beforehand, that the cultivators expect him, he is able to do three or four times as much work and with more effect in a given time, as before this system was arranged. Its effect was noted by the Secretary in connection with members of Ocho Rios Branch, and he was much pleased with it.

Mr. Mennell was also engaged during nearly two months judging the Holdings in Hanover and Westmoreland, in company with Mr. Cradwick, but these parishes constitute part of Mr. Mennell's district, Classes in jippi-jappa hat-making have been carried through in Hanover, with most satisfactory and encouraging results.

Mr. Hirst has taken up the work in Clarendon and St. Catherine, to which he was appointed during the year (July), and has been warmly welcomed. He has devoted, so far, more time to Clarendon, in order to get his work well organized there. Next year he will devote more time to St. Catherine. He has kept in touch with the cotton industry in Vere, but most of his work has been in the upper parts of the parish, which are more small settlers' districts.

Reports on their year's work by these Instructors are appended. The other Travelling Instructors in agriculture, Mr. Cradwick and Mr. Briscoe, are under the Board of Agriculture.

JOURNAL.—The number of JOURNALS published has increased from 3,200 at the date of the last half-yearly report to 3,400, and as new Branch Societies continue to be formed, the number will still require to

be increased. The allocation for promoting it has been increased from £315 to £330 for 1908-09. We have spent £365 17s. 8d., that is, £50 17s. 8d. over the allocation, but part of this is due to an increase of advertisements, for which we have a credit of £82 1s. 10d., while some of the current advertisements have not yet been paid for. Particular attention has been called in the JOURNAL to the following matters of current importance:—Mulching as a Safeguard against Drought; How to deal with White Scale; The Necessity of Water for Bees; Destruction of Rats; Introduction of Milch Breeds of Goats; Value of Guinea Corn; Cultivation of Cotton, Rubber, and Cocoa; How to destroy Garden Pests, &c.

MEMBERS.—The number of members on the roll is 498, as against 520 last year; but the list has been closely revised, 35 names were struck out for subscriptions unpaid, 12 members left the island, 7 died, and 17 resigned, total 71; while 49 new members joined,

BRANCH SOCIETIES.—A list of these are printed at the end of each JOURNAL, with the names of the Secretaries, and their post office addresses. There are 60 local Agricultural Societies, affiliated up to 31st March as Branches, but 15 of these have hardly been working, and Black River, Port Maria, Thompson Town, and East Central Manchester, have become defunct. New Branches were affiliated during the year as follows:—Albany, Brandon Hill, Giddy Hall, Glengoffe, Grand Cayman, Lititz and Nain, Lucky Hill, Maidsstone, and Stewart Town. New Societies are applying for affiliation at date, as follows:—Guy's Hill, Eliot (St. Mary), Comfort Hall (St. Elizabeth), and Smithville (Clarendon).

OFFICE WORK.—During the six months under review, there have been 2,543 letters despatched and 1,910 received; the total for the year being 5,253 and 4,300 respectively. The following were the subjects of the letters despatched in this half year:—Board of Management, 149; JOURNAL, 64; Subscriptions, 230; Instructors, 95; Prize Holdings, 75; Shows, 79; Advertisements, 57; Cattle and Horsekind, 111; Society's Bulls and Stallion, 78; Rubber, 36; Cotton, 71; General Products, 124; Root crops, 114; Vegetable seeds, 86; Sundry seeds and plants, 286; Small Stock and Bees, 174; St. Elizabeth Seed Fund, 31; Rats and other pests, 74; Prædial Larceny, 75; Sundries, 382; Total 2,543. Receipts to the number of 1,102 were issued, and 1,129 received for payments made, an increase of 161 and 332 respectively, over the preceding year.

The usual work of supplying and acting as the medium of supply of seeds and breeding stock has been carried on, and cowpeas, guinea corn, guinea grass, potatoes, cotton, rubber seeds, etc., supplied to the extent of £156 11s. 2d. The Island Chemist analysed samples of guinea corn sent by the Secretary, and the most valuable fact has been established, that while imported guinea corn (U.S.A.) contains 10.9 protein, the product of the same seed grown here, contains 14.4 protein, *i.e.*, more protein than country corn and very little less than oats. Special efforts are being made to get guinea corn generally grown again. After many years continued effort, and after some lots despatched had somehow disappeared on the way, the Secretary was at last able to secure a large quantity of Virgin rubber seed—a rubber tree peculiar to high altitudes in Colombia—through the kind help of Mr. Robert Thomson, and his son in Colombia. A fair percentage of these germinated, and are now growing satisfactorily. The Secretary also has been trying to organize supplies of local arrowroot from Hanover and Westmoreland, where much of it is grown, to supply the public institutions in place of imported arrowroot, and £200 has been spent on this account, which otherwise would have gone abroad. Live stock to the value of £294 18s. 6d. has passed through our hands. Milch breeds of goats have been brought to the island, and much interest is being taken in them. During the year, the Secretary visited part of the instructional districts covered by Mr. Palache and Mr. Arnett as stated in last half-yearly report, and during the second half of the year

had arranged to visit cotton cultivations in Vere, with Mr. Hirst, but unfortunately he (the Secretary) had a severe attack of fever and ague the day arranged to start, and continued attacks of the same trouble over several weeks, but he was only incapacitated from business one whole day and parts of three days. Later, he paid a day's visit to Upper Clarendon and arranged with Mr. Hirst to make an extended tour through his district early in the following year. He hopes also to be able to visit Mr. Mennell's district in the west end, for a week, and take another part of Mr. Arnett's and Mr. Palache's districts from last year. He also attended Appleton Show on 1st January. The Secretary has had 10 days leave of absence during the year.

FINANCE.—We began the year with a balance brought forward of £306 16s. 5d. The income has been more satisfactory than last year; subscriptions are up to the old level, over £100; advertisements amounted to £82 1s. 10d.; affiliation fees, £14 10s.; the only unsatisfactory item, being stallion and bulls fees. The total revenue shown is £274 11s., but of this, £33 16s. 6d. is for refunds, showing a true revenue of £240 14s. 6d.

We have passed through our books deposits, as shown in the statement of accounts, amounting to £771 19s. 1d.

On the expenditure side, it will be seen that on Instructors' account £5 16s. 1d. has been paid over the allocation. This represents value of supplies furnished, since the Secretary was authorised to do this, mostly stationery. The cost of printing supplies for Instructors, it is estimated, will amount to £12 per annum, and this includes handbills announcing their meetings, pads of writing paper, pens, pencils, ink and rubber.

We have paid no rent during the year, the office we occupy as "earthquake quarters" being allowed us free by the Government. The allocation has been used for special grants as, already detailed. There is an excess in the printing of the JOURNAL of £50 17s. 8d. through the extra numbers required to be printed, and additional advertisements secured, for which there is a credit of £82 1s. 10d. There is a small excess on postage and carriage of £1 7s. 6d.; this is through increase in telegrams despatched during the year, mostly in connection with the drought, and not charged against the special fund for seeds and plants. There is a large excess of £22 2s. 7d. on the stationery, as new supplies had to be got after the earthquake (but paid for in this year's accounts), and it happens that a new ledger, cash book, abstract book and cutting book have also been required, the old ones being finished. In Prize Holdings account the allocation has not all been spent, the prize money, £25 for St. Mary not being paid until April. The balance at our credit per statement of accounts is £159 11s. 7d., but there are amounts due for £99 7s. 8d. which will be paid, making a total balance of £258 19s. 3d. The grant from the Government has been increased from £1,250 to £1,500. The estimates and allocations for 1908-09 were printed in February JOURNAL, as approved of at last half-yearly general meeting.

Statement of accounts is appended herewith.

JNO. BARCLAY, SECRETARY.

The Chairman read over the headings of the various paragraphs in the reports and asked for comments.

Mr. J. H. Hemans asked if anything had been done with regard to prædial larceny. This crime was still as bad as ever all over the Island, and the members of the Branch Societies were anxious to know if steps were being taken to do away with the evil.

His Excellency said he was not in the chair as Governor, and therefore he could hardly say anything on the matter, especially as he had not consulted his Privy Council on the question. He could say that he had consulted the Secretary of State for the Colonies whilst in England on it, and the result was that at the next meeting of the Legislative Council a bill would be introduced. It was proposed to arrest on suspicion any person found with agricultural produce and who could not give a proper account of how they became possessed of it, and the onus would rest on such persons to show how they came with such produce. That was as far as he could go in telling them.

Mr. Craig asked if anyone would have the right of challenging a person suspected besides the police?

His Excellency replied that the bill would be on the same lines as the bill of 1901. And it would provide that any person besides the police, who was an authorized person, such as a magistrate, district constable, persons nominated by the agricultural societies of a district, and appointed as kind of special constables, and such persons as were appointed by the Governor, would have the right and could arrest persons on view. The onus would be on the person to show how he became possessed of the article challenged.

Mr. Hemans asked if any measure would be taken in which it was proposed to mark the prædial thief so that he should be known in any district that he entered. This was a civilized country, yet even in Africa such a thing as prædial larceny was not carried on. He would suggest that each prædial thief should be given a sign by the Government, whereby they would always be known.

Mr. Campbell: Do you propose to brand them?

Mr. Hemans: Oh no. What I am suggesting is to give them a badge to wear so that on their entering a district they would be known at once.

Rev. Leo Jones said the Moore Town Branch, which he represented, had instructed him to find out what the Society was doing in the way of furthering the Jippi Jappa hat industry. They had been making hats, and the Society had had an Instructor teaching the people, with the result that some very fine hats were made. He would like to hear if anything was being done to improve the business?

The Secretary stated all the Society was doing was in the way of fostering the industry. They helped by supplying teachers, by supplying plants or the straw; but with regard to the sale of the hats when manufactured, they left that to the trade.

THE ELECTION OF THE BOARD.—His Excellency said the next business was the election of a Board of Management. The Board consisted of a President, which office is held ex-officio by the Governor, two Vice-presidents, and a Deputy Chairman nominated by the Governor, and 15 members elected by the members of the Society.

He desired to nominate Hon. Lieut.-Col. C. J. Ward, C.M.G., Custos of Kingston, and Hon. Dr. J. Pringle, C.M.G., Custos of St. Mary, to again fill the position of Vice-presidents of the Society. There was one vacancy on the Board of Management he said, caused by the death of Mr. Cameron, which they all regretted. There were three nominations to fill the vacancy, viz: Messrs. A. W. Douet of St. Ann, J. C. Farquharson of St. Andrew and Clarendon, and A. C. L. Martin of

Manchester. He would like also to add the name of Mr. Cousins as a member of the Board.

His Excellency said he thought Mr. Cousins should be Deputy Chairman, but he would not nominate him against the wishes of the meeting; but at least Mr. Cousins' position as Director of Agriculture made it necessary that he should be on the Board, so as to be in touch with everything relating to agriculture.

Mr. Simmonds agreed that Mr. Cousins ought to be a member of the Board of Management of the Society and that he should be appointed Deputy Chairman. He should hold this appointment on the Board by virtue of his office as Director of Agriculture.

His Excellency the Chairman said he thought it was very important indeed that Mr. Cousins should be a member of the Board. He should certainly like to nominate him Deputy Chairman, but he felt that Mr. Cousins had not been continuously associated with the work of the Board for some time and that therefore, members might not altogether approve of the nomination.

Mr. Craig said he could not think it quite fair to the other members of the Board who had always devoted their time and attention to the business of the Society, and who would no doubt appreciate the honour of being the Deputy Chairman, that they should be passed over and that Mr. Cousins should be made Deputy Chairman right away. Mr. Cousins had always held himself aloof from the work of the Society, and had contended that its work was out of his sphere. However, he agreed that Mr. Cousins should be on the Board, and if there was any difficulty in his being brought in, he (Mr. Craig) was willing to retire from the Board and so allow him to come in.

The Chairman thought that although Mr. Cousins had not been in touch with the work of the Society for some time, there was not the slightest reason for thinking he would not work in sympathy with the Society if he were appointed Deputy Chairman. He felt sure that Mr. Cousins would throw himself heart and soul into the work.

Mr. Dugald Campbell agreed with Mr. Craig. He, however, thought they should let by-gones be by-gones. He recognised the importance of Mr. Cousins' position in agriculture, and he thought that he should be a member of the Board. If there was no other way of Mr. Cousins coming in he was quite willing to retire so as to let him in.

Dr. Pringle said it was in his opinion desirable that Mr. Cousins should be a member of the Board, and he did not see why he should not be nominated as Deputy Chairman.

His Excellency said: Then I nominate Mr. Cousins as Deputy Chairman. This was agreed to.

A poll was taken which resulted in the following being declared elected to serve on the Board in addition to the President, Vice Presidents, and Deputy Chairman.

Hon. H. Clarence Bourne, C.M.G., Colonial Secretary, (Kingston).

Hon. L. J. Bertram, C.M.G., Auditor General, (Kingston).

The Right Rev. Bishop Collins, S.J., (Kingston).

Robert Craig, Banana and Cocoa Planter, (Clarendon).

D. Campbell, Banana and Cocoa Planter, (St. Catherine).

C. A. T. Fursdon, Stock Breeder, (St. Catherine and Hanover).

Hon. George McGrath, Stock Breeder and Planter, (St. Ann and St. Catherine).

E. W. Muirhead, Stock Breeder, (Manchester and St. Elizabeth).

Hon. H. T. Ronaldson, Stock Breeder and Planter (Clarendon).

J. Shore, Sugar Planter, (St. James).

Hon. R. P. Simmonds, Banana and Cocoa Planter, (St. Mary).

R. A. Walcott, Solicitor, (Kingston).

J. R. Williams, Stock Breeder (Westmoreland).

A. W. Douet, Penkeeper and Planter, (St. Ann and St. Catherine).

A. C. L. Martin, Stock Breeder, (Manchester).

RULES.—The question of the revision of Rules was considered.

Mr. Shore proposed that a special meeting be held in three months for the purpose of revising the rules; Mr. Campbell seconded, and this was agreed to.

Members were asked to send in their suggestions to the Secretary, who was instructed to get copies of the Rules printed and sent to each member of the Society.

The meeting then adjourned.

INSTRUCTORS' REPORTS.

MANCHESTER AND ST. ELIZABETH.—I beg to submit the following review of my work during the financial year ending 31st March 1908.

As from the 1st of April 1907, the Board of Management arranged for the whole of my time to be devoted to the work of instruction, and added the parish of St. Elizabeth to Manchester, forming the No. 4 district as my sphere of duty. At that date there existed in the parish of St. Elizabeth nominally the following Branch Societies: Appleton, Balaclava, Black River, Santa Cruz Village and Newmarket.

Appleton was always a strong and flourishing Society, Santa Cruz Village was moderately strong, but the others were almost moribund. To-day Balaclava is a strong Society with a strong Sub-branch at Rose's Valley, holding regular and well attended meetings.

Newmarket has shown renewed activity and has a promising Sub-branch at Springfield. Santa Cruz Village is in active work and is taking steps to renew its usual show in November, which they were unable to bring off last year.

The following new Societies have been formed in St. Elizabeth during the year 1907-1908: Santa Cruz Mountain with two Sub-branches at Myersville and Southfield respectively, Lititz and Nain with a Sub-branch at Ballards Valley, and Giddy Hall with Sub-branches at Middlesex and Cambridge.

The Santa Cruz Mountain Branch is doing good work. The President gave a prize of £1 1s. for the holdings of members of the Branch not exceeding 5 acres, that showed the most improvement during the year from May 1907 to May 1908; each entrant was required to pay 1s. to make a second prize.

I was requested to inspect and report on each holding last May, and again this May, which I have done. There were ten entries for this prize, and in no case was not material improvement made in the holdings, showing how ready the small proprietors are to respond to any encouragement offered them in the improvement of their holdings.

On the whole I am pleased to be able to report great advance in agricultural work in this parish. And when it is remembered what a fearful drought has prevailed in South-East St. Elizabeth during the whole of this period, it is matter for congratulation that so much progress has been made, and when we get a year of ordinarily good seasons, there is no doubt that agricultural instruction will tell with marked effect on the improvement of the holdings of the peasant proprietors in this parish.

The attendance at meetings is now much better, and the interest aroused seems lasting and likely to increase, and although I do not like to prophesy, I think I can safely venture on the statement that the result of the Prize Holdings Competition now being carried out in St. Elizabeth, will show a marked advance on the last competition.

There is now only one district in St. Elizabeth not served by a Branch Society or Sub-branch, and that is the South-west district, in-

cluding Black River. I have made several efforts to reorganize the Black River Branch but have not yet succeeded. I shall not lessen my efforts until success in this respect results therefrom.

In Manchester the improvement made during the year is no less satisfactory. The Grove Town Branch, which was the only Branch in South Manchester, has been dissolved, and the South Manchester Branch with its central meeting place at Broughton organized, and Sub-branches at Queen Town, Pratville, Frankfield, Plowden Hill and Ebenezer, thus the whole South Manchester from the Eastern boundary on Clarendon to the Western boundary on St. Elizabeth, is thoroughly served by Branches.

New life has been infused into Porus, Fairfield and Davyton,—Christiana Branch with its Loan Bank and Sub-branches at Alston and absorbing the old Mile Gully Branch as a Sub-branch, may be said to be in a vigorous and thriving condition. One show has been held at Appleton on 1st January, and more shows are in contemplation by other Branches next year. New Branches have been formed at Maidstone and Comfort Hall, which are full of enthusiasm and give promise of a useful future.

The drought in South Manchester for nearly two years has been just as severe and trying as in South-east St. Elizabeth, but these people have borne it with great patience and forbearance; they have made every effort. They have seen crop after crop perish before their eyes, and as soon as a few showers have fallen, have gone to work with renewed energy just to see the like result, and it is only now after two years of this terrible stress, that they are calling out for help. If ever a distressed people deserve sympathetic treatment and help, it is these South Manchester peasants.

To sum up, there now exist in my district, 14 Branch Societies and 24 Sub-branches.

From April 1907 to March 1908, I have paid six visits to each of these Branches and Sub-branches without fail, unless when asked to postpone my visit by the Society itself, which is not very often,—my visits generally covering a whole day.

Owing to the increase of these Branches, I have since April of this year, been compelled to reduce the visits to quarterly instead of bi-monthly visits, and it will remain to be seen if this will be sufficient to maintain the progress of the work.

One of the most important features in connection with this work, is the increased interest being taken therein by men of leading and influence in the various districts coming forward and being ready to become Chairmen and Vice-presidents of the Branches and Sub-branches, and otherwise offering facilities for my work.

And I cannot close this report without tendering my thanks to the following gentlemen for valuable aid rendered me in Manchester:—The Right Reverend Bishop Westfall, The Revs. Dr. Turner, R. Johnston, J. Duff, and A. C. L. Martin, R. W. Miles and G. Fitzherbert, Esquires.

In St. Elizabeth: The Revds. S. Ashton, J. Craig, A. Bodfish, John Maxwell and J. M. Farquharson, H. P. Maxwell, Panton Forbes and S. Maxwell, Esquires. The thanks of all interested in the agricultural progress of the island are due to the various religious denominations for the readiness with which they place their school-houses at the disposal of the Instructor for meetings, without which it would be impossible to organize Branches, hold meetings and impart instruction.

Too much cannot also be said in praise of the teachers for the willingness with which they come forward and accept the honorary posts of Secretary to these associations, and the enthusiasm and energy which the great majority of them infuse into their work.

Example of this description is not without its educative influences amongst the people, and is fruitful of much good.

J. THOMSON PALACHE.

HANOVER, WESTMORELAND AND ST. JAMES.—I was occupied in common, with my colleagues, at the Teachers' Course at Hope during January, and if the results of such course are as apparent amongst the teachers as it is with those under my observation, great benefit will accrue.

I have visited all my districts continuously and held meetings, or attended meetings in most of those districts, and I am certain that my visits and instructions are appreciated more and more. I am convinced of this, by the condition of the houses and the cultivations of some of those to whom I have given instruction—generally by actual demonstration, as I find this mode more appreciated, or perhaps more easily understood than instruction by lecture, and I sometimes gather more listeners together in the field than in a meeting. Men are not so bashful or unwilling to ask questions in the field, but many are tongue-tied in a meeting.

In those parts of my districts—notably in Green Island district—I have urged, and with considerable success, the extended cultivation of the Criollo cocoa, and the people have considerable areas in cultivation. I am doing all I can to impress upon them the absolute necessity of care and patience in the curing of the cocoa.

In other districts, more suitable for the cultivation of sugar cane than for cocoa, cane farming is increasing by leaps and bounds, and this industry, when within easy reach of an estate willing to purchase canes, gives very good profits to the careful cultivator, and is, comparatively speaking, a new industry.

I have taken every opportunity of pressing forward the jippi-jappa hat-making industry. There is a class of 22 respectable young women at Darliston, who have taken a course of instruction (three months) under a fully competent instructress. They are now making the hats and getting sale for them, the prices ranging from 6s. to 14s. each. Another class is formed at another centre in the same Darliston district, and I have no reason to doubt that it will be quite as successful as the first. I have set afoot another class in the Cambridge district, but from the various difficulties not easy to overcome, this class is not yet at work.

I have to confine my instruction in the Darliston Hills, in a great measure to digging, forking and draining. The soil is admirably adapted to the growth of bananas, but until the carriage of fruit is easier to the railway station, I have to limit my instruction to cultivating coffee, cocoa and ground provisions. The people complain bitterly of this heavy handicap (steep roads) put upon them in the competition in selling bananas.

Although in various reports I have not said much of bee-keeping in the different districts, but it is an industry by no means neglected, and whenever I find colonies in the different apiaries requiring attention, I have done my best to assist the apiarist by advice or by actual demonstration. I hope, however, in the near future, that this industry will be placed upon a better basis.

I take this opportunity of acknowledging the great kindness and assistance given to me, by ministers and schoolmasters more particularly, as well as by all classes of the community, in what was at first a very arduous and difficult task. I thank them all for this help, and hope that I shall continue to deserve their confidence.

H. D. D. MENNELL.

* *

CLARENDON AND ST. CATHERINE.—I beg to submit a short review of work for the past year, as follows :—

I commenced work as Instructor for the parishes of Clarendon and St. Catherine in July, 1907, and have done the eleven days work per month required, or more. I commenced in the districts of Clarendon, where work had already been started by myself (when Instructor for the upper section) or by Mr. Palache.

I resuscitated the Rio Minho Branch and it has done good work since, having dealt with many agricultural matters, organized a successful agricultural show, and a jippi-jappa hat class. I have visited holdings in the districts it covers, given lessons in pruning and treatment of insect pests, which have been very prevalent and destructive.

Seedling cane-tops have been distributed in this district and jippi-jappa hat plants, and the latter has been found growing wild in the district.

The Thompson Town Branch was defunct and I have allowed it to lapse, and have formed a new Society at Smithville, three and a half miles away, in a more progressive and fruitful district. This district has made great strides in cocoa production, and is particularly adapted for it, but trees have been threatened by insect pests, which require further examination by an entymologist. I have introduced the cocoa cutter into this district and it has met with considerable demand. Pruning knives, saws and two garden syringes for spraying, have been bought.

The Mocho Society has been revived and it is doing fairly good work now. This district is poor and disheartened, and has suffered considerable from the drought and lack of water generally.

The Four Paths or Mid-Clarendon Society has existed only in name for a long time.

The N. E. Clarendon Society is defunct from special causes, but it is likely that a new Society will be formed near by, in the Good Hope district.

A new Branch has been formed in the Bull Head district, which I have twice visited.

I have held one meeting at Chapelton and one at Breadnut Bottom, near Old Harbour.

I have regularly visited the cotton districts of Vere once a quarter, and have several times visited the New Yarmouth Plantation, to gain additional knowledge.

Following the example of the Olive Park Plantation, several small settlers in the neighbouring districts of Mitchell Town and Portland, planted cotton fields, varying from a quarter up to two acres in extent. This was not started by the Instructors, but being already started, I have tried to guide it, and have, I think, succeeded in confining disease where it has appeared. The crop has been a failure, owing to late planting and spasmodic seasons and spasmodic growth and weakened vitality. Coupled with the low prices ruling, the people are disappointed, and very few will plant for the next crop.

I have still several districts in Clarendon which are not yet touched, and will require attention in the coming year.

I made a special visit of two days to St. Catherine, by request, to advise as to plantation work, during October.

I made another visit of two weeks in December, and worked the Point Hill, Kitson Town, Linstead, and Riversdale districts.

The Upper St. John's Branch is somewhat dead I am afraid, though I found more field work in the surrounding districts than I could get through in the three days at my disposal.

St. John's (Lower) is kept alive, and has good attendances at its meetings, by the pressing need for water. It does not seem likely that they will secure it in the near future. If they do, I expect a slight reaction for a time.

I visited Sergeantville, but had no opportunity of meeting the Branch there, and do not know in what standing it is.

I am now engaged in a two weeks tour of the parish, and shall visit Linstead and vicinity, Cedar Valley, Ham Walk, Hampshire, Sergeantville, Point Hill, Old Works, Mountain River, Doddington, and Garden Hill.

Kitson Town, I have already visited. I have also made arrangements to visit one or two plantations. The work in St. Catherine is steadily growing.

Drought and scarcity of water have been prevalent in Lower and Mid-Clarendon particularly, and in Lower St. Catherine and the St. John's district. The poverty of the people in these districts is extreme, and even in the less affected districts the people are much poorer than usual. This applies, I think, in some measure, to the planters and penkeepers also.

In conclusion, it might be advantageous if arrangements were made, that I could devote my whole time to this very large district in the next financial year.

* *

J. HIRST.

ST. ANN, TRELAWNY AND EASTERN ST. JAMES.—I beg to forward you a short summary of work performed as Agricultural Instructor for St. Ann, Trelawny and Eastern St. James during the year 1907 and 1908, for the information of the Board of Management of the Jamaica Agricultural Society.

1. It has been very difficult to continue the regular routine of work during the year, on account of special and adverse conditions having arisen in many districts, in consequence of the long and severe drought. Many of the people's plans for work were set aside, and much time taken up in going, in some cases, long distances for water. And at other times the land was so dry and baked, that it was impossible to attempt anything in the way of cultivation. However, it has been gratifying to notice that in several instances, the time which was thus not suitable for agricultural purposes, on account of the long drought, was utilized for making better and increased provision for storing water. Tanks and ponds were cleaned out, ponds were repaired and enlarged, and new ponds dug. Tanks have also been repaired and new ones built. Some time was also devoted to wall building. It is fair to say that much of this useful work has been done as a direct result of the Prize Holdings Competition.

2. However, in spite of the special and difficult conditions above mentioned having arisen, the regular routine of work has been fairly well maintained during the year. Branch meetings have been held and a large number of visits to individual holdings.

A new Branch has been formed at Stewart Town, which is doing exceedingly interesting and useful work.

An attempt was also made to reorganise the South-west St. Ann's Branch, as it covered too large a district, making the distances too long for the members to attend the meetings. It is desired to divide it into two Branches, one at Gibraltar and one at Watt Town. But up to the present we have not been able to get a sufficient number of members in each district to apply for affiliation as separate Branches.

A decided effort has been made during the year to get the members of the Branches to co-operate for the carrying out of any special object, and in two or three cases at least, some success has been met with.

At Stewart Town, the members have combined and subscribed the money to experiment with an acre of cotton in that district, the arrangements and plans have been completed, the land secured, and the cotton planted.

At Deeside, the members have combined and subscribed the money to experiment with a half acre of cultivation in the district, taking up, and cultivating under the best possible conditions, the crop suitable for the locality.

Members of the Pedro Branch have combined and are prepared to subscribe the money to secure a ram, with the object of improving the class of goats in that district. I have been authorised to purchase one for them as soon as a suitable animal can be obtained.

3. Cotton experiments were carried out in various districts in St. Ann, Lower Trelawny and Eastern St. James, but on account of the long and severe drought most of them were not successful, and some failing entirely. But the parties are prepared to plant again in August and

September. In spite of very bad conditions, a patch at Runaway Bay struggled through and has borne fairly well, and the lint would appear to be of very good quality. A patch at Gibraltar 1,500 feet up, grew well and bore heavily, but did not seem able to mature and ripen properly. A patch at Claremont was much the same.

4. In January I attended and assisted at the usual annual Teachers' Course, and though a much smaller number than usual attended the course, yet useful work was done, and in some respects, it was a more successful course than usual.

The men took up the practical part of the work with a good deal of interest, and this year each allotted plot was completed, which, as a rule, is not the case.

During February and March, I was engaged in assisting Mr. Cradwick in judging the holdings in the Prize Holdings Competition in St. Mary. The competition this time was spread over almost the entire parish, and it was very satisfactory to note the great improvement in the holdings as compared with the last competition. Much better houses were being built, better methods of cultivation were being adopted, fences erected, and the general condition of the holdings vastly improved. But one could not help noticing the amount of vegetable matter wasted on all sides, which would make excellent feed for cattle and hogs, and which should have been utilized for manure in various ways. The small settler in St. Mary evidently pays very little attention to small stock, or in fact to any stock except mules. And even these would be much enhanced in value, and their working powers greatly increased, if the Spanish needle, grass, banana suckers, etc., which are now allowed to go to waste, were hand-fed to them; a large amount of manure would also in this way become available for the land.

5. During the year, Mr. Barclay has paid two visits to different parts of my districts. During the latter part of September and the first week in October, he visited a part of St. Ann and Lower Trelawny. In December he visited Moneague, Claremont and Pedro districts, attending the annual meeting of the Pedro Branch. These visits are most encouraging and helpful to the Instructor, and very beneficial to the work in general, and much appreciated by the people.

On account of the difficulties arising, owing to the adverse condition of the weather, and on account of being called away out of my district to do special work, and on account of not having sufficient means to meet the amount of travelling expenses involved, I find it increasingly difficult to overtake all the work needed to be done, or to respond to the many calls for visits, either to districts or in individual holdings, and were it not for the assistance, hospitality and kindness I receive from all classes, it would be almost impossible to do the work.

Stewart Town P.O.

E. ARNETT.

PRODUCTS WANTED.

FRENCH COTTON.—A firm of English merchants of high standing wish to import from Jamaica and the neighbourhood, wild French cotton, fairly free from seed, in quantities of not less than 5 ton lots; also red bird peppers. Anybody interested please write to the Secretary.

CASHEW NUTS.—There is also a demand for roasted cashew nuts in quantity, if people interested would write the Secretary.

RATS.

OWING to the many inquiries made about rats, rat poisons, traps, virus, and generally about means of destroying them, as a result of what we have published in the *JOURNAL* and our circular to all the Branch Agricultural Societies, we publish this short article to show how matters stand at present.

Throughout the world an organized campaign against rats is being carried on. This, not only because of their steady increase in numbers of late years, not only because of the damage they cause to merchandise and agricultural crops, and to the eggs and young of various domestic animals, has become so serious, but more because it has been discovered and realised that rats carry disease and spread it more than any other animal. No other kind of animal is so common and so cunning.

Rats are everywhere—in private houses, in out-houses, in storerooms, and in roofs, walls and floors, from the garrets to the cellars; they are in ships, steamers and barges, they are in cultivated fields, they are in the wilds, they are by the sea-shore and every stream and river; they live in trees, they live among rocks; there is almost no place where rats cannot exist and thrive, and they are so omnivorous that nothing comes amiss to them. Here in our comparatively small island, as compared to other lands, with a width of sea around us, we have not been so much concerned about rats as carriers of disease (although that may yet be brought home to us) as we are of them as the destroyers of valuable crops. And of all our crops, the one that is most subject to their depredations, is one that is becoming of great and increasing value to us every year, and that is our cocoa trees, which unfortunately, lend themselves as place for rats to carry on their depredations. Our cocoa is usually grown through bananas, the bunches on which afford a nesting place for rats; the cocoa trees, when full grown, interlock their branches, and so rats can travel right through a field without touching the ground. Cats, dogs, and traps are ineffective in fields of this description, continual poisoning is tedious, dangerous, and not of lasting effect, and the most effective way to destroy the pests wholesale, with safety to domestic animals, is by the modern method of using rat virus. There are several preparations of this, which have been tested here. Unfortunately, they do not appear to stand exposure to much heat and light, and so, when used, they have often been of no effect, the bacteria having become inert. Often also, too little has been used, so its effect has not been noticed. If, where there are thousands of rats, one small tube of virus only is used, and it is expected that rats will be seen lying dead wholesale, that expectation is, of course, a mistake. Not more than half a dozen rats may consume the bait made from one tube, these may not all sicken, but some having taken little, recover from their fever, and perhaps only three spread it. The disease will go from one to another, but like an epidemic of small pox or scarlet fever, works itself out, for it must be borne in mind that rats are exceedingly

cleanly and sanitary in their habits—although they do infest unsavoury places,—while sick rats are usually killed by the well ones unless they clear off, which they generally do, so that the contagious disease spread by the virus is soon checked by the rats themselves.

They are cute and cunning creatures, so that to keep up the disease, fresh tubes of virus have to be used continually, or else it must be used on a large scale at one time.

Owing to so many failures of the tubes of virus used here being reported, probably having been exposed to the light or subjected to too much heat in transit, or often through the instructions not being followed implicitly, the Island Chemist was asked by the Board of Agriculture and authorized by the Government, to try and prepare a virus suitable for our conditions. This work has been carried on at the Government Laboratory for a year past. Rats have been caught and kept in cages and inoculated with a Mexican rat virus, which was said to be exceedingly virulent, and also other preparations of virus. This inoculation has been a success, as the rats sicken and die; other rats have been inoculated, and consignments of these have been let loose at the wharves and stores in Kingston, at a plantation in Manchester, and at the hospital for infectious diseases in Kingston, and good results have been reported. This work is still being carried on. It must be mentioned however, that the best effect found so far, has been the inoculation of the rats externally, *i.e.*, the preparation is inoculated into their bodies, not swallowed.

Inoculation is always more virulent than the taking of the same stuff internally; snake poison can be swallowed with immunity, whereas the tiniest drop entering the blood through the skin kills a man in a short time.

This is how the matter stands at present, that inoculated rats have been sent out from the Laboratory to test their effect, and good results have been observed in sick rats coming out in the day time and dead rats lying about. But the feeding of this virus to rats has not given any of the desired results, that is, it has had not the effect of sickening them and killing them.

As this inoculation would be a cumbrous way to work, we hope that it will be found possible to prepare a culture from the blood of the rat that can be sent out in the way the preparations of rat virus are, to be set like ordinary poisons. This is one of the most important works that can be carried through by the Laboratory, for if we get an effective virus it will save us thousands of pounds per annum in cocoa alone. Meantime, every method available should be used—cats, dogs, traps, poison and virus—and no effort spared to exterminate rats.

BUD-ROT ON COCOANUT TREES.

THE Government Mycologist of Ceylon, as a result of his examination of trees affected on many estates under different condi-

tions of climate and soil, states that soil conditions have nothing to do with bud-rot, and that it is caused by bacteria. In all cases of trees affected, or even when there were doubtful cases, these were cut down and burned.

He thinks the disease inherent in cocoanut trees and that it has existed as long as the cocoanut tree.

There is another disease, not allied to bud-rot, but which attacks the same part and shows similar symptoms, caused by a fungus. This is curable.

Cases here diagnosed as bud-rot, which have been cured by the application of salt and soap to the "cabbage" or growing bud, or by burning the tops, may not have been the real bud-rot.

CACAO.

FEW of our economic plants cross fertilise so readily as our cacao trees. If there are different varieties not far apart in a plantation, the seeds from pods taken from these will not raise trees producing the same type as the parent tree. It is foolish therefore for anyone to take pods from a pure Criollo cocoa tree or a pure Forastero tree growing among others that are principally or purely Calabacillo in type, and expect the seed to grow into a pure Criollo or pure Forastero tree.

We take the greatest pains, after much inquiry and inspection, to make sure that only one kind of tree is growing in the small cultivations that we get seed from. We say small cultivations, because in these we more readily find trees all of the same type than in large plantations. Often the owner has originally planted his trees from the seed from one pod, or all from one great old tree. Carelessness in supplying in this respect we think cruel, as after a planter has spent his money and waited five years, relying on someone who ought to have known that he has a certain type of cocoa, he finds when the trees bear, that in his cultivation he has all sorts of crosses, but hardly any of the pure type he thought he was growing.

RUBBER AND COTTON.

THE fall in price (fine hard Para is now 2s. 11½d. per lb., as against 4s. 7d. six months ago) is almost entirely due to the recent financial collapse in the United States. To some extent the crisis may be expected to bring about its own cure, as the very large reduction in the number of expeditions sent up the Amazon, as a result of the sudden shutting down of credit and facilities, will naturally result in a considerable shortage of supply compared with previous years. This shortage will hardly become apparent until next autumn, but the knowledge of its approach will doubtless affect the market in advance; and, provided business conditions in the United States return to anything like a normal state within a

reasonable time, there is every reason to anticipate a substantial recovery in the price of rubber.

The price of Sea Island cotton has been affected in the same way, though not to the same extent.

POULTRY NOTES.

PRESERVING EGGS.—Eggs are plentiful now, but they will be scarce from October to February as usual, because poultry keepers will not get rid of their old fowls, which, nearly all stop laying in that time, and will not hatch chickens in February, March or April—the big breeds early and the smaller breeds later within that period—so that they will begin laying by September. This is the time therefore to preserve eggs and keep them over, and this can be perfectly well done here, even in the lowlands. The best method is to use the water-glass solution; lime water can also be used, and in the hills even lard can be used perfectly well. We give the three different methods, as follows :—

THE WATER-GLASS METHOD.—Water-glass, soluble glass, or silicate of soda, has during the past ten years become recognised as the most reliable and desirable means of preserving eggs. The silicate of potassium has also been used, but it is not as desirable as the sodium silicate.

Sodium silicate or soluble glass, is met with in commerce in a variety of forms, notably as a solid in crude lumps or glossy masses, or as a crude powder of a whitish-brown colour. It is also obtained as a jelly having a whitish-grey colour.

None of these forms are desirable for the poultryman, because of the difficulty in preparing them for use. The sodium silicate which concerns the poultryman is the commercial sodium solution which usually contains about 10 to 12 per cent. of soda and from 20 to 24 per cent. of silica. It is a transparent or nearly transparent, almost colourless, viscid liquid, without odour, but having a salt or sharp alkaline taste. Its specific gravity varies from 1.12 to 1.40.

This solution of sodium silicate or “waterglass syrup” can be obtained through any wholesale druggist; is usually supplied in tin cans and glass or stone jars or jugs, and costs as a rule not more than 4s. per gallon, the price depending largely upon the quantity purchased and upon the ease with which it may be obtained. The majority of tests in the preservation of eggs have been made with the water-glass solution or syrup having a specific gravity of between 1.12 to 1.30. In large quantities, water-glass solution is supplied in hardwood barrels or casks. Care, however, must be taken not to allow nails or other similar metals to come in contact with the solution, as they discolour it. A good quality of water-glass “syrup” should be free from yellow colouring, the yellow usually being traceable to discolouring through contact with iron.

Galvanised iron and pure tin do not seem to have any effect upon the solution.

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METHOD OF PREPARING WATER-GLASS FOR THE PRESERVATION OF EGGS.—In diluting water-glass, for making an egg-preserving solution, distilled or thoroughly boiled water should be used. The best plan is to add to 1 quart of water-glass "syrup" 9 quarts of boiled or distilled water, mixing the same thoroughly. When the solution is cool, it is ready for use. The eggs should be fresh gathered, all dirty eggs should be thrown out, and the clean, fresh eggs should be placed end down in some watertight container that can be covered. It is desirable to "candle" all eggs before packing them. Wooden kegs or buckets are not as desirable as stoneware, galvanized iron or glassware. After filling the container with layers of eggs, all packed small end downward, until a few inches off the top, pour the cool diluted water-glass solution over the eggs until it stands within 2 or 3 inches above the topmost layer of eggs. Cover the container tightly, and set in a cold place until the eggs are wanted for use. The container should always be kept in a cool, clean room, like a milk-room or cold cellar. The room should be well aired, and so far as possible, free from any objectionable odours.

Eggs may be kept in this manner for from six months to a year with practically no loss. When desired for use, the solution should be drawn off; the eggs may be washed or rinsed and then placed in racks to dry, when they will be ready to pack in cases for shipping to market, or to be handed over to the cook for household purposes.

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PRESERVING EGGS IN LIME WATER.—Eggs will keep for twelve months in properly-prepared lime water. The lime water is prepared by slacking 1 lb. of freshly burnt quicklime with a small quantity of water; the milk of lime so formed is stirred into 5 gallons (50 lb.) of water. After the mixture has been kept well stirred for a few hours, it is allowed to settle. The resulting liquid, which is now saturated lime water, is drawn off and poured over the eggs previously placed in a jar or water-tight barrel. As exposure to the air tends to precipitate the lime (as carbonate) and thus weaken the solution, the vessel containing the eggs should be kept well covered. The air may be excluded by a covering of sweet oil or by sacking, upon which a paste of lime is spread. If after a time there is any noticeable precipitation of the lime, the lime water should be drawn or siphoned off, and replaced with a further quantity newly prepared. The eggs should be completely immersed throughout the whole period of preservation. Although not necessary to the preservation of eggs in a sound condition, a temperature of 40 degrees Fahr. to 50 degrees Fahr. will no doubt materially assist towards retaining a good flavour or rather in arresting that "stale" flavour so characteristic of packed eggs.

LARD AS A PRESERVER OF EGGS.—To preserve eggs some system must be adopted that will absolutely prevent the exchange between the air outside and that inside the egg, for it is this continual exchange that causes putrefaction. Select perfectly fresh eggs and cover them with lard, so as to effectually stop up all the pores. The shells are thus rendered impermeable, the exchange of air is prevented, and the obstruction of the pores not permitting the evaporation of the water, there will be no loss of weight. The whites and yellows of the eggs retain their colour perfectly and the taste is not modified in the slightest degree, so long as they are kept in a cool place. When properly coated with lard—not too thickly—the eggs are put in baskets or boxes upon a bed or two of fine odourless shavings, and so arranged that there will be no point of contact between them—otherwise a mould will develop and putrefaction result. The packing room should be perfectly dry, the question of temperature not being of much importance.

By this process eggs will keep for a whole year and they are perfectly preserved. Twopence worth of lard suffices to coat 100 eggs, and anyone can easily prepare that number of eggs in one hour's time.

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GOOD EGG LAYERS.—The pen of fowls in the egg-laying competition at Subiaco, owned by Mr. A. H. Padman, of Adelaide, took the lead for last month's laying. Mr. Padman has now the lead in every State holding competitions. For the first nine months the scores are:—Gatton, Queensland, 1,207 eggs; Roseworthy, South Australia, 1,158; Berowra, New South Wales, 1,141; Subiaco, Western Australia (six months and one week), 871 eggs. This is the first time in the history of the competitions that one breeder has had the lead simultaneously in each State.

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THE Inter-State egg-laying competitions which have been going on under the supervision of the respective Governments in Queensland and South Australia, during the last twelve months, have been concluded, and in each competition South Australian hens laid the greatest number of eggs. In the former competition, the winner was a pen of six White Leghorns, which laid 1,538 eggs during the year, and in the latter another pen of similar breed, laid 1,531 eggs. These results contribute a world's record.

COMMENTS.

MULCHING.—In the article on Mulching, which appeared on page 186 of the June JOURNAL, the printer unfortunately used the word "consuming" instead of "conserving," thus entirely reversing the effect intended to be conveyed. The passage should read, "besides conserving moisture."

A COMMERCIAL HANDBOOK.—We have received a little handbook, entitled, "The Commercial Handbook of Jamaica," printed by the Jamaica Times, Ltd., Kingston, price 6d. This will be a very useful little book. It gives the names and addresses of the merchants in Kingston, in different lines of business, so that in a moment you can turn up the dealers in different lines of goods. This applies not only to Kingston, but to other towns in the Island. It also gives the duties on the different goods imported; passengers' fares on the railway; the cost of money orders, and the cost of steamship freights, etc. (See advertisement in this issue.)

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COCONUTS.—"I own a fine tract of about 600 acres at Baracoa, with coconut groves, that up to recently have been yielding 10,000 nuts per month, but now disease is killing the trees, so that in a year or two there will be nothing left. I must seek some other crop to grow, as it is impossible to sell owing to diseased trees."—CUBAN CORRESPONDENT.

[The trouble is bud-rot disease, which is rampant in Cuba. It will be a bad day for us if this trouble ever becomes as virulent here. If we have a Contagious Disease Animals Act (as is likely) compelling owners to report disease amongst their stock, and to burn or bury dead bodies of animals, so should we have a Contagious Disease Plant Act to compel similar measures among owners of coconut trees.—Ed.]

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COTTON.—Those small cultivators who planted cotton in Vere, say they will not plant again—the crop was poor and the price realised poor also, 2d. per lb. when hopes of 3d. per lb. were held out. But what crop any one grew was not poor last season,—corn and any kind of provision, even cassava, either failed altogether or gave a small return,—and in more seasonable parts, bananas and cocoa, and provisions also gave short crops.

It proves the contention that cotton is a splendid crop for dry districts, when in spite of the drought, even half crops are being marketed.

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BRANCH SOCIETIES.—We mentioned in a late JOURNAL that Trinityville was the oldest Branch connected with the Society. It has been pointed out to us that Trinityville was formed on 24th July 1896, while Christiana was formed on 6th July 1896, although they were both affiliated on the same day, 9th September, 1896. That is quite so, but Christiana has not been kept up as a Society ever since and had to be re-affiliated, while there has been no break in the continuity of the Trinityville Society.

As a matter of fact, the first Branch formed and affiliated, was Western St. Ann, formed 28th February and affiliated on the 8th July 1896, but it became defunct. It was re-established and again became defunct, but we hope it will soon be established again though perhaps not under the same name.

BOARD OF MANAGEMENT.—At the Half-yearly General Meeting, held on June 18th, the election of the Board of Management took place, with the result as per list printed at the beginning of this Journal. The day after the Board met, one of the members, Mr. R. A. Walcott, we regret to say, died, and a new member will require to be elected in his place. Mr. Walcott had been a member of the Board of Management since 1900, and he will be much missed.

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PIGS.—We have received an account of the first Farmers' Pig Factory established in the United Kingdom. This distinction belongs to the town of Roscrea in county Tipperary, in Ireland. The number of shareholders is about 2,800 and the capital £15,000. It is entirely co-operative in principle, and each member of the society must, under a penalty of 10s. per pig, offer such bacon pigs as he produces, and all of them to the factory. The capacity of the factory is 750 pigs per week, and the total cost of the factory including the land, is £7,500. It has been a great success.

Now we import bacon, pork and lard to the extent of some £80,000 for the products of the pig every year, and in the same way that a butter factory can be made successful, a pig factory can be made successful. It would provide a steady market for pigs, extend the local pig raising industry, employ labour, and save a large portion of the £30,000 per annum.

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TRADE.—The great financial depression which has occurred in the United States, has not only decreased the spending power of that country very largely, but it has affected almost the whole world. Both the imports and exports of the largest trading countries have been affected seriously, as is shown by their trade returns, as follows:—Great Britain, January to May 1908, imports decreased 10.1 o/o; exports decreased 7 o/o. United States, January to April, imports decreased 32.2 o/o; exports decreased 2.4 o/o. France, January to April, imports decreased 3.9 o/o; exports decreased 7.8 o/o.

Germany alone stood the depression until the end of March, showing a slight increase for these three months, but there was a heavy decrease in the weight in tons of both exports and imports for April. It will thus be seen that Great Britain imported 10 o/o less than during the same period in the previous year, and the United States no less than 32 o/o less than in January to April 1907. It is this decreased spending power which has so unfavourably affected the markets for our products, there is less demand, so prices have fallen.

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SHOWS TO BE HELD.—St. Mary show at St. Mary's Oval, Port Maria, 16th July; Hanover show at Lucea, 3rd August; St. Ann show at Thicketts, 3rd August; Bath show at Bath, — November; Manchester show at Kendal, 26th November; Newmarket show, 9th November.

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RUBBER.—If anyone can give us information of any person competent to tap rubber trees in the Island, we shall be very much obliged.

RATS.—The importance to the community of a crusade against rats, has at last been recognised by the authorities, and a rat-destruction committee has been appointed by His Excellency the Governor to devise the best means of carrying this out. The measures will be principally directed in Kingston, but steps will also be taken in all the outports to destroy rats.

The immediate incentive to the Government to take the steps they are now doing and to place funds at the disposal of the Committee amounting to £200, is, of course, the appearance of the Bubonic Plague first in Venezuela with which we have steam communication through the port of La Guayra, and then in Trinidad with which we have also connection. As these ports have been strictly quarantined there is no immediate fear of the plague reaching us, but in some indirect way it might; at any rate we are taking prompt measures to lessen any risk of it.

It will be well for readers to understand that rats are the chief disseminators of the plague; they take the disease first and from them it passes to human beings, principally by means of fleas. The flea that has bitten a plague-stricken rat and then bites a human being inoculates the bitten person.

The disease is such a fearful one, that although we have no immediate fear of it coming here, neither time, effort, nor money should be spared in making assurance doubly sure.

We hope that none of our readers will trust to other readers to do the rat-killing for him, but make personal effort and spare no pains to kill rats in every way possible to him.

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BULLS.—As will be noted on the first page of the JOURNAL the King's Shorthorn bull "Desmond" died at Worthy Park by Ewarton, the immediate cause being 'red water.' This bull was calved on 22nd January, 1903, at the Royal Farms, Windsor, and arrived here in October of the same year, so that he was 5½ years old, and had been 5 years save four months here. It has been decided that the two other Shorthorn bulls in the care of the Society, presented by Sir Alfred Jones to the Island, should be sold, and steps will be taken to advertise them in July. Sealed offers will be received by the Secretary and submitted to the Live stock committee.

CORRESPONDENCE.

(Only letters with replies likely to be of general use are published here.)

GUINEA CORN.—The Guinea Corn you supplied me is phenomenal. It was eaten by mules when about 6 inches tall and several times later by hogs, then a severe drought hit it, but it has come on in spite of drawbacks, and it now seems to have about 6 stalks for each seed planted, all heavily laden with large heads. I now have 500 Caravonica trees (wool) half among banana trees, doing poorly, half in open field planted, 7½ x 7½ feet, 7 months old, 7 feet tall with branches touching. Some have over 400 bolls opening. Last week finished planting 30,000 more that are all up and doing well.—W. H. B., Baracoa, Cuba.

As a member of the Agricultural Society at Sav.-la-Mar for over three years and still a member, and as I am now the owner of this pen and living on it, I have made up my mind to go in for pigs to a large extent as the property here is well suited for them. I have a good lot of the large Berkshire pigs, but I find they don't suit me here on many grounds; they are great rogues and they wander about too far on the property and cost too much to feed, and the small butchers can't buy them, they go wild very often, and they destroy my fowls and young ducks, so I have made up my mind to get rid of that class of pigs entirely off the property. Now I am asking you to procure me a pair of the old time small China pigs, one boar, one shoat, and you will be good enough to let me know the cost of them. If they can be got, I will be only too glad to get them here. They would have to be sent by the coastal steamer to Sav.-la-Mar for me. Your early reply will oblige.—R. F., Green Island.

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We have out 135 acres of Citrus, and will increase to 200 next fall or winter, and eventually possibly to 500 acres. We have out 12 acres pines, and will increase to over 40 next year. Last year we had 26 acres of tobacco,—10 under cheese cloth,—and now expect never to grow "outside" tobacco again. The frame and cheese cloth, ready to plant, cost about \$275 per acre, but it pays big. We are just installing an irrigation system of seven drilled wells, to be operated by compressed air, carried in pipes from a central power house to each well, where it will operate air lift pumps, that will deliver 100 to 150 gallons per minute from 6 in. wells or 300 gallons from the 8 in. wells that we will put down in our tobacco land. These wells will be from 150 to 250 feet deep. Irrigation is a necessity here for best results about two out of three years, so you can make your trees bloom early, and hold their fruit. We are not needing irrigation now, as it has been raining for 16 hours and may last another day, but it has been a steady soaking rain, just what we wanted as the past 20 months have been very dry. Pines are largely grown in Havana Province, on heavy red soils, but we can beat them in quantity and quality on our lighter sandy soils, which are ideal fruit soils, the best I have ever seen. They need fertilizer, but that is the key to success, as it enables one to control the quality, and with irrigation, the quantity and season.—H. G. B., Paso Reel, Cuba.

BRANCH NOTES.

Stewart Town.—The regular monthly meeting of this Branch was held on Thursday evening. 25th ult. The President of the Branch, the Hon. and Rev. W. M. Webb, was present, and occupied the Chair; E. Arnett, Esq., Agricultural Instructor, was also present. The following members were in attendance: Messrs. John Stockhausen, Chas. McFarlane, R. H. Brissett, Wm. Cunningham, Thos. Moreland, John Ricketts, James Campbell, Elias Grant, Samuel Barnett, David Williams, and the Secretary. In opening the meeting, the President expressed regret for his unavoidable absence at several of the meetings. He was pleased to be present on this occasion. He was glad to see the members present, also Mr. Arnett, the Instructor. The minutes of the last meeting were read and confirmed. It was reported that, owing to the recent drought, the cotton plant had turned out to be a failure this season; but with commendable courage and hopefulness, the members of the Cotton Association who were present, decided to make another trial. Mr. Arnett proposed that the land be prepared by ploughing for October. He was quite sure Mr. Milliner, who is in sympathy with us, and who is a shareholder in the concern, would be willing to lend his plough for the purpose. Corn and peas will also be planted. The subject of "Rat pest"

was again brought to the attention of the meeting by Mr. Arnett. He told us that he had some little time ago heard for the first time from a small cultivator that the following is a sure poison for rats: boil rose apple roots strong, and then take the decoction and boil sweet potatoes in it, and set the potatoes. Several of the members stated that they knew of the prescription a long time, and sometimes tried it, not only with potatoes, but with corn. One member, Mr. Brissett, said he tried it, but it did not kill the rats. Mr. Arnett said that perhaps he did not prepare it the right way. Mr. Arnett next gave information about "Rat Virus," which was thankfully received. He also referred to the death of Capt. Baker, who was the pioneer of the banana trade, which from a small venture—in which Capt. Baker had his share of discouragements at the beginning—has grown to be an enormous and profitable trade, and which has proved a blessing to us. He therefore moved that a resolution of condolence be sent from this Branch to Capt. Baker's son. Mr. McFarlane seconded, and it was unanimously carried. The President suggested that the resolution be forwarded with the report of the meeting for publication in the newspapers. The President expressed how pleased he was to note the progress of the Penny Bank in connection with the Society. Since the starting of the Penny Bank—fourteen weeks ago—£28 had been deposited. Thrift was being encouraged, and the usefulness of the Society is shown in this respect also. The splendid improvement made on Road No. 136, leading to the Doornoch River Head, was also referred to by members. The rocks on some parts of the road have been blasted and levelled, the sharp curves widened, the road made wider all along, and marled or macadamized, and it is now in a safe condition. Vehicles can, although the gradient is steep, go down to the river, and return up in safety. The Superintendent of Parochial Roads is to be commended for effecting the improvements so expeditiously; and thanks to the Parochial Board for the special grant. The President touched on the prædial larceny question. He was of opinion that one-third of the population were non-producers and yet consumers. He thought parents were to be blamed to some extent for the way in which they brought up their children, some were not taught to work. Mr. Grant in replying, said the Law relating to parents and children, as it stands, was faulty; for if a parent finds it necessary to give his son a good whipping he is liable to be taken to Court and fined. The President said that was the second time he had heard that statement made, and perhaps there was a good deal of truth in what Mr. Grant had said, and if so, he sympathised with the parents. The local Agricultural Instructor informed the meeting of the Thicketts Agricultural Show to take place on Monday, August 3rd. He promised to take any exhibit, such as ropes, door mats, corn, peas, or leaf-tobacco that any member of the Branch may have and wish to send on to the show. They should be prepared in time. A special meeting will be called on Monday, July 27, to give Mr Barclay, who is expected to be in the district at that time, an opportunity of meeting the Branch. At the close of the meeting, the President gave a few words of encouragement to the members. He urged them to unite in keeping up the Branch by attending the meetings, and interesting others to join. What he would like very much to see is, that every man in Stewart Town own a cow; and he instanced the material and social progress of the people of Gibraltar district. Each member of the Branch should make his yard and field a model. Time for next meeting, July 30th. Meeting adjourned.—JOSIAH JOHNSON, Hon. Secretary.

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DEATH OF CAPT. L. D. BAKER.—At the regular meeting of the Stewart Town Branch of the Jamaica Agricultural Society, held on Thursday evening, June 25th, Hon. and Rev. W. M. Webb, President of the Branch, in the Chair, the following resolution was unanimously

passed :—Moved by E. Arnett, Esq., Agricultural Instructor, seconded by Chas. McFarlane, Esq. : "That the members of this Association have heard with deep regret of the death of Capt. L. D. Baker at his home in Boston, U. S. A. Captain Baker was the pioneer of the banana trade of Jamaica, the remarkable growth of which has brought immense blessings to millions of people—producers and consumers alike—and has opened up a source of financial and social prosperity to this Island and elsewhere within the last 20 years, undreamed of prior to that period. Jamaica has lost a truly good man and patriotic friend by the death of Captain Baker, and his name is worthy of all honour, and his example of all imitation. Jamaicans will hold Capt. Baker's name with lasting gratitude, and the members of this Branch anticipate that an effort will be set on foot to erect to his memory a suitable monument to which rich and poor will gladly contribute according to their means. The members of this Agricultural Association desire respectfully to offer to his family their sincere sympathy."—JOSIAH JOHNSON, Secretary.

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Guy's Hill.—The monthly meeting of this Society was held on Thursday the 18th ult., at St. George's Schoolroom. The members present were : Mr. C. B. Evelyn, President, Rev. A. E. Lewis, Messrs. A. H. Holness, W. C. Brown, A. A. Phillips, C. Shelly, C. Irvine, S. Grant, R. Forbes, John Lawrence, J. J. Hunter, W. Brodber, Urq. Anderson, E. Slater, E. S. Allen, and the Secretary. Mr. R. T. Thomson of Naseberry Garden, who was also present, became a member. After the reading and confirmation of the minutes, the Committee appointed to deal with the jippi-jappa hat class to be started, presented its report. It had gone carefully into the matter of probable receipt and expenditure, and it is hoped that a substantial grant will be made by the parent Society, in which case the class will be started in July. A somewhat lengthy discussion took place on the ways and means to get rid of rats, and on prædial larceny. Some members expressed the opinion that the punishment inflicted on prædial thieves is too light, hence the repetition of the crime and frequent return to prison in many instances. The opinion of the meeting was, that prædial larceny is on the increase, and we think that some of the causes are ignorance, illegitimacy, low wages, and the want of a healthy public opinion among the peasant class. It is strongly felt that the time has come when the Government should bring the compulsory clause of the Education Law into operation, whereby ignorance among the peasant class will be greatly lessened. **Rats.**—Mr. E. S. Allen of Retreat, gave the following as an effective method of dealing with rats :—Phosphoric paste set in orange. The top of an orange to be cut off and the paste pushed down inside. Rats are exceptionally fond of orange seeds, and in their attempt to get out the seeds they drink in the poison and die soon after. It was generally thought unsafe to set poison in and about the house, but that traps should be regularly set and the baits changed from time to time, using different articles to meet the taste of the rōgues. The trap known as "drop down" was said to be one of the surest, and the idea was expressed that if the parent Society could see its way to give a few to each Branch for free distribution, it would go a great way in helping to get rid of this pest.—W. E. WATSON, Secretary.

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Santa Cruz Mountains.—The meeting on the 19th ult., commenced at 4 p.m., with the President in the chair. The attendance was fairly large. The minutes of the last meeting were read and confirmed. The Treasurer reported that he had received receipt for 5s. from the Secretary of the Jamaica Agricultural Society for the current year. Correspondence from Mr. E. J. Smith of Southfield, and Mr. W. S. Irwin of Myersville, were read. Five new names were enrolled, viz., Mrs. G. O. Heath, Mr. Wm.

Fagan, Mr. H. Redfern, Miss Annis Montague, and Miss Irene Blair. Subscriptions for the current year were received. Here we had the pleasure of listening to a most interesting report of Mr. Palache on his inspection of the holdings of those who competed for the President's prize. Mrs. Ashton had the pleasure of handing the 1st prize to Mr. Edward Wallace of Mullings Bush; the 2nd prize to Mr. Joseph Russell of Russells; and the 3rd prize to Mr. Isaac Murray of Roseberry. Mr. Finlayson congratulated the winners of the prizes as well as encouraging the other competitors on the improvement made to their holdings through the competition. Votes of thanks were tendered to the President for his kind act in giving the prizes. The Secretary was instructed to write Mr. Stewart thanking him for his portion of the prize-money, and also to Mr. Palache for his interest and trouble taken in the inspection of the holdings. It was agreed to publish Mr. Palache's report. It was reported that Mr. Isaacs had agreed for the show to be held at Mt. Olivet. After a long discussion, it was finally moved by Rev. S. C. Ashton, and seconded by Mr. Charles Salmon, that the holding of the show be postponed—agreed to. There being no other business the meeting terminated.

MR. PALACHE'S REPORT.—I beg to report that on Friday and Saturday, 22nd and 23rd May, I visited and carefully examined each one of the holdings of members of your Society entered for the President's prize. (I have endorsed the report of the present condition of the holdings on the same page respectively of the report of their condition in May 1907). I am glad to be able to report that in every holding there are decided marks of honest efforts for improvement. And when it is borne in mind what a year of drought this district has passed through, the competition may be said to be highly creditable to all concerned. And the President is to be congratulated on the hearty response to the idea which emanated from him, to create a desire for improvement in the homes of the members of the Association. I recommend the first prize to be awarded to Edward Wallace of Mullings Bush, because the improvement he has made is to be found in every department—house, out-buildings, barbecues, fencing permanent, and catch crops. I recommend Joseph Russell of Russells district for the second prize, because of his attention to the water supply and the erection of a fine new tank which must have involved considerable outlay of time, labour, and money, and with existing conditions, was as useful an improvement to his property as could be thought of. Mr. Isaac Murray of Roseberry is certainly entitled to the third position in the competition for very general and useful improvements on his holding.—J. THOMSON PALACHE, Instructor.

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Maidstone.—The usual monthly meeting of this Branch was held at the Nazareth Schoolroom, at 3 o'clock, on the 29th May. Present: Rev. J. E. Harvey, President, Messrs. Charles Josephs, W. T. Holness, S. Morris, W. Parnell, S. Palmer, James Smith (sr.), and the Secretary. The minutes of the previous meeting were read and confirmed. Mr. S. Morris, Assistant Secretary, gave a very interesting talk on bee-rearing. He said that the bee was a most useful little animal, for it provides us with two articles of commerce—honey and wax. After dealing to some extent on the ingenuity of the bees, the three kinds of bees in the hive or colony, and the function of each kind, he showed the advantages of the modern system of bee-rearing over and against the old "turn-down" system (a) as to honey, (b) management, (c) quicker and surer increase in colonies. Locality he said was a very important factor in the success or non-success of an apiary. For instance, if bees have to go long distances to gather honey, they would gather so much less in a fixed time than they would otherwise. He next spoke on the commercial side of the industry, and gave figures to prove that bee-rearing under right management was a profitable concern. Mr. James Smith (sr.), who is

well known in these quarters for keeping good horses, gave a very practical lecture on the management of horses, especially as is required in these mountains, where conditions are by no means favourable to horse-rearing. In his opening, he stated that the horse is one of the most useful animals to man, and that it may be able to perform its work well, it should be properly fed and kindly treated. The following were some of the points brought out by the lecturer: To have a good horse, begin with the colt, and rightly so in the invisible stage. See that the mare, in nearing time of delivery be in good health, that she is free from fever, which horses are subject to very much. If the mare is suffering from fever at or about the time of delivery, the colt will be born with it, as is commonly observed in some colts just after they are foaled, and is likely to remain a source of trouble, even when they are full grown. In all cases of questionable health on the part of the mare, medicine should be administered. Horses are subject to worms, caused principally from having sucked poor milk, as colts, and poor milk is due to bad feeding. Working horses should be fed to the best. They need a good supply of flesh-forming food. Some food tend to destruction more than anything else. Old guinea grass is very unsuitable to old horses; it gives costiveness. Horses' legs should be bathed after coming home from a journey. This helps to bring back the nerves to their normal condition. After work, food in all cases should be given before water. [We should say the reverse—always give water before food.—Ed.] Whenever a horse groans in riding, it is no indication of strength, as some people believe; something is wrong, either the saddle-cloth is not comfortably placed, or that he is unwell. Horses should be fed in proportion to their sizes. Horses are very sensitive and appreciate kindness. In the management of horses too much trust is placed in boys. Our horses are too often forgotten in the stable. The horses' prayer is a safe one to follow:

"Down the hill trot me not,
Up the hill gallop me not,
On the level spare me not,
In the stable forget me not."

The President expressed his pleasure in listening to two such practical lectures, and on the motion of the Secretary, Mr. Maxwell, seconded by Mr. W. T. Holness, a hearty vote of thanks was accorded both lecturers. Mr. Josephs suggested that something should be done either in the way of cotton-planting or the introduction of the jippi-jappa industry to help to keep up interest in the Society. The Secretary was instructed to write to Messrs. Barclay and Palache, ascertaining from them what are the prospects of cotton-growing in these districts. All present felt that the meeting was a very profitable one, and was adjourned to meet again on the 23rd June, when Mr. Palache is expected to be present.—J. A. MAXWELL, Secretary.

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Porus.—The regular meeting of this Branch was held in the Church of England Schoolroom on Monday 1st June, 1908. The Rev. Mr. Esson was asked to take the chair, and Mr. J. T. Palache was in attendance. The minutes of the previous meeting were read. Mr. Palache asked if the financial statement of the show had been submitted yet, and the reply was, that only a rough statement had been given by the Treasurer so far, which had shown a credit balance. Mr. Palache lectured on the education to be derived from the show. He pointed out that the agricultural products were numerically weak, and he wanted the members to take a little more interest in working up the show, so as to secure more competitors and thus make competition keener. The live stock was very successful, and on the whole, it was very creditable that arrangements had gone so well, that they had been able to pay prizes amounting to £42 12s. He hoped that they would join cordially in making Kendal show a success, as it was the pioneer show in Jamaica. He thought that

members of the Society should keep more small stock, and nearly every one at least, should keep rabbits, the manure from which would be very useful in the gardens. The Chairman (Mr. Esson), said that he would not be able to give as much time to the Society as previously, but he would still take as much interest as he could. He moved that the Society should ask Mr. Rose and Mr. Palache to attend the next committee meeting of the Kendal show, and that they ask that committee to give prizes for the best collection of agricultural products shown by Branch societies. He was glad to know that the small people were taking up the raising of cows more, and that a small settler's cow at their show gained first prize, giving a yield of $4\frac{1}{2}$ quarts of milk, and they must do their best to improve their breed of cows. Mr. Palache suggested that they hold another show in January or February of 1909. Notice of a scheme to be brought before the next meeting was given by Mr. W. A. Morgan. It was moved and seconded, that a special meeting be called to receive the report of the Show Committee, but an amendment was carried, that the report be received at the next ordinary meeting. A vote of thanks was given to Mr. Palache.—C. ROWLAND, Secretary.

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St. John's.—Learning that Mr. J. Hirst, the Travelling Instructor, would be passing through this district, posters were put up announcing same. In response to these, the following members assembled at Kitson Town on the 30th May at 6 p.m.:—Rev. W. Burke, Messrs. S. A. Banton, E. J. Hendriks, T. G. Richards, G. A. Bell, J. H. Gonzales, William Wilson, Edward Wilson, Charles McLeod, Simon Maxwell, Rueben Maxwell, D. V. Anderson, and Miss F. M. Fuller. Among the visitors were, Messrs. Chas. Wright, J. McPherson, A. Gonzales and Donegal. After the minutes were read and confirmed, the Secretary informed the meeting that he had forwarded the resolutions relative to the "tank question" to the Board, but he had not yet received any acknowledgment of same. The lecturer was introduced by the Rev. W. Burke, who occupied the chair. In a plain and forceful way, Mr. Hirst urged all present to do a great deal of mulching, which was indispensable in these dry districts. All present were urged to do away with selfishness and co-operate for their united good. After an interesting lecture all were asked to put any question to the lecturer on the subject. The water question was discussed at length. All present were unanimous on the deficiency of water. Many are of opinion that it would be better for them to leave the district and go somewhere else, rather than face a water-famine again. The lecturer was in sympathy with the speakers and gave valuable advice, which was highly appreciated. The following resolution was unanimously carried:—"This meeting considers that the catchment area of the Kitson Town tank is not sufficiently large to allow the tank to be quickly filled considering the light rainfall and the large number of people to be supplied. 2. That in view of the fact that frogs, live and dead, are continually found in it, the walls of the tank should be raised, and should be covered over with $\frac{1}{2}$ inch mesh wire in order to keep out these and any other vermin, leaves or other sources of pollution. 3. That a pump be erected at the tank for the purpose of drawing water and so prevent the liability of the spread of disease and for the protection of the walls of the tank. 4. That the tank be placed under proper control to prevent pollution.—S. A. BANTON, Secretary.

P.S.—Since writing we are having heavy rains. From Tuesday till to-day (Thursday) no one can get out for rain. We are all glad for this.

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Hector's River.—At the last general meeting of this Society, held in the Seaside Schoolroom, on the 17th ult., the following members were present: Rev. W. P. Sibley, President; Rev. A. H. Swift, Vice-president; L. E. Scotlock, Treasurer; J. Jacobs, Secretary; John Afflick, Geo.

McKay, A. Grant, W. C. McKay, Matthew Hairy, F. M. Jones, L. R. McBean, T. A. Gray, N. Jonas, R. Dormer, J. Doorie, Jas. Hoffman, R. B. Hoffman, Jos. Nickolls, J. Burke, J. A. Carmichael, M. Afflick, E. Afflick, J. Legune, A. Duany, Misses R. E. Jones, Alice McPherson, Matilda Dorre, and Mrs. Dormer. The meeting was opened with prayer. The President explained why the meeting of the 6th inst. had been postponed, and proceeded to deal with the matter of the coming show. The several committees on show arrangements presented their reports and recommendations. The members present heartily agreed with the suggestion of the Vice-president to grant "Certificates" instead of cash prizes at the coming show. Several members offered special prizes (cash) amounting to two pounds. Rev. W. P. Sibley offered 1, Rev. A. H. Swift 2, Mr. L. R. McBean 3, Mr. T. A. Gray 2, Mr. F. M. Jones 1, Mr. L. E. Scoltock 1. Application for membership was made by the following gentlemen:—J. Allwood, Chas. Leslie, P. McKenzie. *Re* the jippi-jappa hat-making class, Mr. Gray reported that the plant grows abundantly on his property, and could be got from him free of charge for the use of learners. The Secretary was directed to communicate with Societies that had successfully conducted classes so as to get all information. We are having fine seasonable showers. The fields are looking green, and the fissures in the pastures are all closing up.—E. JACOBS, Secretary.

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Above Rocks.—On the 26th of March, at a meeting of ladies and gentlemen, held in the St. Mary's Schoolroom, to listen to a lecture by Mr. W. Cradwick, Travelling Instructor. Mr. W. L. G. Vassall urged those present to unite in starting a new Branch of the Agricultural Society to replace that which had for some years existed here. Temporary arrangements were then made, and accordingly meetings were held on the 9th of April, and the 15th of May. At the meeting on the 15th May, there were present: Messrs. W. L. Rainford, E. E. Waugh, A. E. U. Shakespeare, Walter J. Lobban, William Lobban (snr.), Edward Douglass, Hubert Barnett, Chas. A. Creary, Chas. E. Creary, Jos. Cushnie, David Nelson, George Evans, G. Albert Coombs, Henry Waul, Jas. Walters, Samuel Nelson, W. L. F. Vassall, and Miss A. M. Green. It was decided to have the Society affiliated with the Parent Society, there being thirty-six members registered. The following officers were elected to serve for the ensuing year:—W. L. Rainford, President; E. E. Waugh, and A. E. U. Shakespeare, Vice-presidents; Charles R. Creary, Treasurer; W. L. F. Vassall, Secretary; Miss A. M. Green, Assistant Secretary; Managing Committee: all the officers, also W. J. Lobban, C. E. Creary, C. A. Creary, Geo. Evans, E. J. Gordon, and Ambrose Lecesne. The following committee was appointed to frame rules to be presented at the next meeting: The President, Vice-presidents, Secretary, and W. J. Lobban and G. A. Coombs. After a very pleasant evening, the meeting adjourned. The next meeting will be on the 19th of June. List of members:—W. L. F. Vassall, Secretary; W. L. Rainford, President; Edwin B. Galloway, George Evans, Walter J. Lobban, William Lobban (snr.), William J. Lobban (jnr.), Robert Harriott, Charles A. Creary, Charles R. Creary, Charles E. Creary, Reuben Errar, Daniel Dunbar, Miss A. M. Green, Joseph Cushnie, Samuel Gordon, Richard Raymond, E. E. Waugh, Edward Douglas, James Neil, Alexander McDonald, Alexander Phipps, Charles Gentles, Hubert Burnett, Malachi Creary, Joseph Creary, Arnold Lecesne, Ambrose Lecesne, James I. Lecesne, Edgar J. Gordon, David Nelson, A. E. U. Shakespeare, G. Albert Coombs, Henry Waugh, James Walters, Samuel Nelson.

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Aberdeen.—ANNUAL REPORT.—During the year, April 1st 1907, to March 31st, 1908, twelve regular and one special meetings were held. The special meeting was held on May 22nd, and the regular meetings on

the following dates : 27/4/07 ; 18/5/07 ; 8/6/07 ; 20/7/07 ; 10/8/07 ; 14/9/07 ; 19/10/07 ; 16/11/07 ; 17/12/07 ; 18/1/08 ; 8/2/08 ; and 18/3/08. The Rev. E. Leo Jones was Chairman ; Messrs. J. E. Bailey and R. E. Harris, Vice-chairmen ; Mr. S. P. Osborne, Treasurer ; and Mr. H. W. Hay, Secretary. The ordinary business of the Society occupied the time at the first meeting, such as financial matters and the appointment of officers, etc. At the second meeting, preparation was made to meet Mr. Cradwick at the special meeting on the 22nd May. On that date Mr. Cradwick came and lectured on the importance of rubber cultivation and the jippi-jappa hat-making industry. This industry became the chief topic of all the subsequent meetings. After due consideration and preparation, a class was started under the tutorship of Mrs. L. Balentine towards the end of October, 1907. The class continued at work for 16 weeks, and was closed on February 15th, 1908. A total of 40 pupils joined the class at the start. The number was later on reduced to 32. Hats to the number of 55 were completed by the class up to the time of its closing. It is regrettable to say, however, that Mrs. Balentine did not show herself to be a very capable tutor, and at the inspection of the work done by the class, by Mr. Cradwick, it (the work) was pronounced to be not satisfactory, and on the advice of the Travelling Instructor, the class is re-opened again, of which more will be heard later on. The total amount subscribed by 17 members of this Society, with fees got from a few of the pupils for the support of this first hat class, come to £17 8s., which amount was expended in paying Mrs. Balentine at a rate of 18s. per week, and to meet other expenses connected with the working of the class. In connection with the starting of the above mentioned hat-class much thanks are due to Mr. Cradwick, who directed the matter, and the Rev. G. D. Purdy, who did his best to get a suitable hat tutor for us. Mr. Cradwick made three visits to us during the year (1) at a special meeting on May 22nd, when he lectured and advised us, as is stated above ; (2) at a regular meeting on August 10th, when further advice was given, and the cocoa fields of a member (Mr. J. E. Harris) was visited ; and (3) on September 3rd, when there was no meeting, but when he discussed matters about the then proposed hat-class with the Secretary, and visited the cocoa fields of two members of the Society. During the year, there were 35 members on the roll, who fulfilled their obligations to the Society.—H. W. HALL, Hon. Secretary.

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Deeside.—The regular monthly meeting of this Branch was held in the Hastings Schoolroom on the afternoon of the 13th May 1908, at 7 o'clock. There were present : The President, Mr. J. A. Foote ; Mr. E. Arnett, Travelling Instructor for the parish, the Secretary, and nine other members. The minutes of the last meeting were read and confirmed. There were one or two important items of business arising out of the minutes that came up for discussion. The plot of land for the purpose of starting a model garden in connection with the Society having been secured, an estimate for fencing, clearing of land, forking, etc., was made, when it was agreed upon that a capital of £2 10s. be raised for starting the work. It was further decided that each member be asked to take out one share valued at 2s. If the required amount is not raised on the first allotment, then those shareholders requiring more than one share can have them. Mr. Arnett, the local Instructor, suggested that the Society, as well as individual members, should also be a shareholder. He has also promised to give his help and attention in the work of the model plot. The Secretary was directed to notify absent members *re* allotment of shares, and get their co-operation. Those members present who took shares were : Messrs. G. Walcott, J. A. Foote, R. McBayne, W. Gordon, R. McKenzie. The next item of business dealt with was that of correspondence. A letter was read by the Secretary from the Rev. J. F. Gartshore, Secretary of the Hanover Branch, in reply to his letter asking for information *re* the jippi-jappa hat-making industry. The

matter was thoroughly discussed, after which a Committee, consisting of Messrs. R. Roche, R. McKenzie and R. McBayne, was formed to get the names of pupils who will be willing to join the class. Another Committee was also formed, consisting of Messrs. R. McKenzie, D. Thompson, R. Roche, G. Walcott, and the Secretary, for the purpose of framing rules in management of the class. Mr. Arnett then made a few remarks congratulating the Branch in the work it is doing on its own behalf and in the interest of the district. He gave a short account of his itinerary in the other parishes, and promised to attend the next monthly meeting of the Society, which is fixed for the 16th June.—R. R. McBAYNE, Secretary.

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Bull Head.—This Branch met at Mt. Carmel, on the 17th ult. The Secretary read the minutes of last meeting. Local committees were formed: For Brandon Hill—Chairman, Teacher Simpson; Mahoe Hill—Chairman, Mr. E. Wright; Colonel's Ridge—Chairman, Mr. E. Jones. The rules sent by Mr. John Barclay were adopted with a few modifying items. Meetings will be held every month, beginning at 5 p.m., on the Wednesdays immediately before full moon. Board of Management meets on the same day, half-an-hour before the regular meeting. Subscriptions must be paid in before the 30th of September. Messrs. Simpson, T. Turner and Wm. Wright made brief and interesting remarks. At next meeting Mr. Simpson will open a discussion on Banana Cultivation in the Bull Head district, and Mr. Wright who has much experience of the past history of these districts, will open a discussion on "The Future of the Bull Head District." The Society is growing numerically. It is hoped that it will grow in importance and usefulness. There is little hope of a good corn crop. The soil is suitable to bananas. A good deal of drainage is necessary in most parts where the soil is clayey and retains much water. The model plot of bananas laid out by the minister and the teacher is coming fine. Cocoanuts thrive splendidly in these districts, and the soil is specially suited to cocoa. The weather is dry.—E. A. TOMLINSON, Secretary.

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Newmarket.—A meeting of this Branch came off on the 19th ult. The Instructor, Mr. J. T. Palache, was present, and the following: G. E. Daly, President, in the Chair; J. A. Wallace, Edwin Thompson, H. A. Forde, William Harvey, B. T. Atkinson, G. P. Ogilvie, G. H. Reid, A. S. Comrie, J. A. Monteith, C. H. O'Connor, and the Secretary. After the preliminary business was gone through, the Instructor in his usually pointed way, gave a lecture on prize holdings. He went carefully into each point relevant to the subject, and left nothing vague in the minds of his hearers. His lecture was listened to with marked interest. His itinerary has him for this Branch on the 28th August, when he hopes to have as large or a larger audience, and will give another lecture on the same subject. The motion of a show was brought forward by the Instructor, seconded by Mr. Ogilvie. This motion was in keeping with the consensus of opinion of all present. It was therefore resolved that a show be held on the 9th Nov. A show committee was then appointed, consisting of J. A. Wallace, M.P.R., Secretary, and with him were associated, Geo. E. Daly, B. Thos. Atkinson, C. Peynado, A. C. Comrie, G. H. Reid, Rev. G. H. Lopp, G. Ogilvie, H. A. Forde, C. H. O'Connor, Edward Collins, Jno. Shaw, the Instructor, and the Secretary. Mr. Palache handed in to the Secretary rules and regulations and twenty entry forms for the Prize Holdings scheme. It was agreed that the meetings of the Branch be held on the third Friday in each month, commencing at 3 p.m. The meeting then adjourned. It was a profitable and pleasant meeting. The downpourings between the 2nd and 4th inst., did havoc with the fine cultivations in the neighbouring property, Hopeton. Nature has within the last, and this week, assumed a different mood—high breezes and an occasional light shower.

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BOARD OF MANAGEMENT.

As there was no pressing business on hand except what could be dealt with by circulation of papers among the small committees, no meeting of the Board of Management was held in July.

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On account of the sitting of the Legislative Council where members of the Board of Agriculture were engaged, the usual monthly meeting of that Board was not held in July. The business will be dealt with in August.

TUBERCULIN TEST.

MUCH discussion is being carried on in stock papers as to the value of the Tuberculin Test. Many reliable and experienced stock owners and veterinary surgeons do not believe in its effectiveness or its reliability, but on the whole, we think that when carried out with the utmost care and not by tuberculin-mad "experts," who use the test in an indiscriminate fashion in operating on cows, much in the same way as one would put labels on beasts at a show, it can be depended upon. It is not of course infallible.

The beasts to be tested require to be in proper condition for the test, i.e., in normal condition, not excited.

A correspondent of *Hoard's Dairyman* sent the picture of two bulls to that paper as an illustration of the danger of judging animals by the eye alone. One was a beautiful bull in the best condition, the other looked out of condition, at any rate was not as round and fat and sleek as the other. Both of these bulls had been tested and one of them reacted. The readers of the paper were asked to say from the external examination of the bulls illustrated, which bull suffered from tuberculosis.

We quote as follows :—"It will be remembered that in the article accompanying the picture of the two bulls I stated that both bulls were tested and one of them reacted. That was the spotted bull, the finer and far more healthy appearing one of the two. It was a revelation to the so-called expert who was positive he could pick out the tuberculous bull from the external diagnosis. The post-mortem showed the spotted bull was badly affected in the liver, retro-pharyngeal, mesenteric and portal glands, while the lungs were in a healthy condition.

"The dark colored bull did not react, was tested yearly and lived for several years in a healthy condition, and was finally disposed of because he had outlived his usefulness for breeding purposes. I took the pictures of the two bulls side by side because I was surprised to find that the better looking bull was so tuberculous, while the thin, dark colored bull, though somewhat suspicious in appearance, under the surrounding circumstances, was simply "off his feed" and suffering from a lack of "physical culture" exercise in the open air.

"That test first opened my eyes to the value of tuberculin as a diagnostic agent in detecting tuberculosis in cattle. Before and since that time I have personally assisted in applying the tuberculin test to many thousands of dairy cattle. In a majority of cases where reactions occurred the owners wished them slaughtered, and in not a single case did the State Veterinarian fail to find the disease plainly noticeable to the naked eye. In every post-mortem a record was made of the location of lesions and a study of these records was very interesting. In many cases the lungs were found apparently healthy, while the liver was absolutely a rotten mass.

"I purposely used the picture of the two bulls without any explanation as to which one reacted from the tuberculin test. It was an object lesson to those who decry the test and claim to be able to pick out those cattle that are diseased enough to be really dangerous to their associates.

"I thoroughly believe in the reliability of the tuberculin test, after several years personal experience in testing thousands of dairy cattle. It is not an infallible test any more than any other human agency, but it is absolutely wonderful how it will pick out the tuberculous cows in a herd of mixed cattle.

"As to the liability of tuberculin to cause tuberculosis in cattle or excite the growth of latent germs, to which some writers refer and claim, I have never found a single instance in my extensive experience that caused me to believe such a condition has occurred. I know of individual herds and animals that have been repeatedly tested for years without a single reaction. Some of these animals have finally been slaughtered and close inspection has failed to find a single lesion. And I have a record of several cows that reacted on the first test and were quarantined. In the spring of the year they were turned out to run in a pasture by themselves where they could get plenty of sunshine and fresh air all the time. One or two reacted the second time, but, in a majority of cases, they threw off the disease and became apparently as healthy as any other cattle. Some of them were finally slaughtered and found healthy, but with scars on certain organs, showing the existence of former lesions."

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Among the animals slaughtered in the slaughter yard here, it is the rarest thing to find any suffering from tuberculosis of any organ. Our cattle live a fairly natural existence, living in the fresh air and sunshine all the time, and these conditions are all against

the development of tuberculosis. But many of the fat cattle here when slaughtered are found to have enlarged and hard livers, the result probably of abundant food and little exercise in the fattening process. Often when cattle are listless and out of condition, it will be found that it is the liver that is at fault, not the lungs.

Even calves with a hereditary tendency to tuberculosis are in little danger of developing it, except they happen to be dairy stock, kept much in the stable. The fresh air and open life of the pastures make it exceedingly unlikely that this disease will ever be one that will trouble our stock much. The cattle that do suffer from tuberculosis here, are old working stock which have been heavily driven for years, and penned in a dirty pen almost every night of their lives; often such cattle suddenly lie down and die, and if opened much tuberculous tissue is found. We fear that to save them from dying, they are often killed and their flesh used on estates; but the flesh of such cattle does not come into town markets. But even with such working cattle tuberculosis is not common.

AN EFFECT OF DROUGHT UPON COCOA.

Cocoa planters, who have suffered from drought this and last year, must have gained some experiences worth chronicling. Last year, I suffered heavily, not getting one-fourth of a crop, the bulk of the pods having withered on the trees, and what were reaped yielding only poor and spent beans. There was, however, no difficulty in curing these, such as they were.

This year, since a heavy fall of rain—on the second to the fourth of June, up to which time there had been a long drought with accompanying high winds—curing has given great trouble. The first thing noticeable, was excessive acidity in the fermentation of the beans. I was puzzled to account for this, and although I think I have arrived at the proper *cause*, I am by no means positive of it, and only give my view for what it is worth. The effect of this excessive acidity in fermentation is to produce a strong pungent, acrid odour, which remains in the beans after they are dried, and which, I find is exceedingly difficult to get rid of—in fact, the beans are sour, and can only be made less so, by constant turning and exposure to the air, and this has to be done of course with great care, to prevent the beans shelling.

I have come to the conclusion that the following is the explanation. Prior to the heavy fall of rain referred to, the beans, although weathered and shrivelled, were fairly sound. After the rain, growth started in the pods, the bulk of which had suffered from drought, many being dry and free from mucilage, and before “breaking,” fermentation had undoubtedly set in, in a greater or lesser degree, according to the condition of the pods when gathered. This, I take it, was caused by fresh sap rising in the pods, after the heavy rain, which in place of filling out and completing the growth of the beans, started their germination and consequent fermenta-

tion. The constituents of the bean were thereby altered considerably, and the beans rendered spongy, while the additional fermentation evolved in the usual process of fermenting—say for three or four days—produced excessive acidity, which remains, more or less, in the cured product.

The only suggestions which occur to me—when such conditions are present—are to select the apparently sound pods from the weathered ones, and to ferment—separately—very slightly, or perhaps not at all, and to cure as quickly as possible, plenty of the pods before “breaking” will look quite fresh and sound, but on being cut open will be found to contain no mucilage, and the beans will be dry and discoloured, so that separation should continue during “breaking.” If it is thought undesirable to ferment, the beans could be washed.

My experience does not as yet extend to the reception this class of cocoa will meet with from the manufacturers, but the change in the character, and the smell of the beans, are not likely to escape notice.

Possibly, some of the readers of the JOURNAL with similar or other experiences of drought on cocoa trees, or on cocoa beans, will give us the benefit of these.

R. C.

COUNTRY FOODS.

It is a fact that while farmers live in the most favourable environment for enjoying the best health, they have more real or imaginary diseases than any other class, and take more drugs. This is due, more than anything else, to lack of knowledge about the right way to prepare and cook food. There is none that has or can have such an abundance of the best material to prepare or cook for food as the farmer. When the farmer's wife learns how to prepare food, so it will be digestible and palatable, and to serve it in nice and tasteful ways, she will do much to improve the health of the family, and enlarge their capacity for both work and enjoyment.”—*New York Tribune Farmer*.

[THIS has just as much application here, even more indeed. We live by the food we eat, the water we drink, and the air we breathe. Pure air we can always have, we have no factories, pits and furnaces spouting forth black smoke, and intelligent people know the value of pure air in bedrooms at night ; but too many accept their food casually, and there is a monotonous sameness as a rule in the country family's diet. The vegetable garden can be the source of much variety and increased palatableness in the dietary, but with untrained, careless “boys,” it is, we know, a worrying task to keep up a good garden. Still nothing worth having can be got without trouble. A constant supply of cabbage, turnips, carrots, beets, lettuce, artichoke, raddish, spinach, cucumbers, with that most healthful fruit for this country especially, tomatoes—but which, to be really nice, require to be well cultivated, else they will be very fibrous

in the heart—added to the numerous kinds of peas, broad beans and kidney beans, chochos, ochros, calaloo or wild spinach, scallion and pumpkin, which are commonly grown so easily, make meals a pleasure and a profit. The value of succulent vegetables, is not for the amount of nutriment they possess, but for their valuable acids and their action on the digestive organs.—Ed.]

ORANGE TRADE IN SPAIN.

SIR Daniel Morris asked the Secretary of State for the Colonies that information should be obtained as to the state of the Orange Trade in Spain—and reports have been obtained through His Majesty's Consul-General at Barcelona—and forwarded to us by the Colonial Secretary, from which we take the following extracts:—"Report from Valencia shows the export in 1905 to be 1,594,274 cases, containing 420, 714, 1,000, 1,064, or 1,120 oranges according to size. In 1903 the exportation was much larger. By far the larger proportion of these cases went to British ports, and from Valencia direct the total shipment was 4,500,000 cases. In addition large quantities of oranges are now produced in the provinces of Murcia and Almeria, and considerable quantities are shipped from Seville and Malaga.

"The growers of fruit usually sell their crops to packers who pick, classify and pack the fruit, and either sell it in Valencia to dealers, or more generally consign it to a broker or to a commission agent in one of the foreign markets, by arrangement, in the former case, with the broker's agent in Valencia. The grower expects to be paid without fail on the Sunday following the picking of the fruit, and the packer expects an advance from the broker's agent to meet him.

"Packers reputed as solvent usually receive an open advance at the beginning of the season and account is kept by the broker of the fruit shipped against it. In some cases money is only advanced against a definite consignment of fruit, the advance being well within the probable value of the fruit, for the assets of many brokers, if the sale of the fruit fail to cover the advance, are absolutely nil. . . . Some growers do their own packing or part of it, especially when the low prices offered by the packers, as at present, lead them to think they could do the business better themselves. . . . Some packers do part of their own growing, land being the popular form of investment. Other packers work on commission for shippers, and sometimes for growers. . . .

"In a few districts the growers have associations, the members of which undertake to pack their fruit themselves, unless they can get a fair price for it. Packers have also formed associations for the purpose of getting the most advantageous freight rates for their members. The duty of the President of the Society is to secure space for the members. Previously when each shipper arranged the matter for himself, secret rebates were given to the

larger at the expense of the smaller, and it is doubtful whether the new system has done much to alter this. . . .

"An agreement, not always effective, is also made among packers for fixing the opening date of the orange shipping season The fact that growers get paid regularly within a week of the plucking of the fruit, while brokers advance money to the packers, often on flimsy security, shows on which side there has been least co-operation or most competition. It is this which has enabled bankrupt packers to continue receiving advances, and has given a certain indifference as to the price at which they buy from the grower. . . .

"Oranges are almost the monopoly of Spain, but in the free markets one fruit competes with another, and an increase of the price of oranges would lead to their substitution by some other fruit. Indeed oranges have already felt severely the introduction of Jamaica bananas into the United Kingdom. . . .

"It is generally agreed that the growers have made handsome profits up to date, and this is confirmed by the increasing area under cultivation, to which a large number of young trees bear witness. . . . It is not possible to give any exact figures of the cost of production. The quality of the soil varies in different localities, some being irrigated from canals, some being dependent on water raised from wells by animal or steam power. Some estates are situated near the sea or railway, while some have to bear heavier charges. The forcing of fruit trees too by fertilisers beyond their capacity, though sacrificing quality, has increased quantity. . . .

"The price of wood for the orange cases has been gradually rising since 1903. The supply of bananas in larger quantities, also of apples and oranges from other countries, has proved a check to the Spanish business. Since January last, growers and shippers have held frequent meetings to consider the position, and the local press has devoted much space to the discussion of the question. Suggestions have been offered from all quarters, and the solutions are most bewildering. In general the consensus of opinion points to the formation of syndicates of growers which would undertake the packing, shipping and sale of the fruit in foreign markets. There is a desire to try the experiment of selling direct to the foreign consumer, and thus avoiding the expenses now caused by the fruit being handled by various intermediaries.

"Proposals have also been made to form several lines of steamers, subsidised by the Spanish Government for the economic transport of the fruit to foreign markets. Other suggestions demand a compulsory association of orange growers, by means of a tax levied for the purpose of improving the trade in general. Growers generally agree in demanding a market reduction in railway tariffs. . . .

"Concerted action upon such a scale as might prove effective is not easy. The Spaniards in this district do not appear capable of such action for long, and moreover are not disposed to risk the

capital necessary to the successful development of any likely scheme. Last season 1907, the Valencia shippers combined to regulate the date at which shipments were to commence and the results were not satisfactory. This season a similar arrangement was contemplated, but was frustrated by one or two large shippers holding back. Owing to this, shipments commenced upon an enormous scale early in November, when the fruit was unripe for consumption, and disastrous prices resulted. Shippers received a sharp lesson for this folly, and it is almost certain that they will take the necessary precautions another season.

"The orange trade in Spain has for the last few years been in a very unsatisfactory state for all concerned, not only for the growers and shippers here, but for the receivers in the United Kingdom and other countries that the fruit has been shipped to.

"The principal causes of the disaster are :—

"(a) The over-production, size of crop having steadily increased for some years past. (b) The production of oranges on a large scale in other countries, which are shipped to and have to be consumed in the same markets as those that are produced here. (c) The enormous quantities of fruit such as bananas, apples, etc., that flood the same markets. (d) The financial depression in all parts. (e) The fall in exchange.

"Matters have improved because no more trees are likely to be planted, so that the crop will not increase although the people may be slow in cutting down or pulling up existing trees in unprofitable districts, and using the lands for other crops. The extravagant use of artificial manures is also likely to come to an end."

MULCHING.

IN your note on mulching, page 186, of the June JOURNAL, you write as if *mulching* was almost, if not quite, a panacea for all the ills of the cultivator of bananas, cocoa, rubber, or coffee. I admit that mulching is useful under certain conditions and circumstances, but I am not prepared to concur in the dictum that "a heavy mulch is the secret of the true cultivation of these staple crops."

There are clearly some objections to it, and among them I may mention the tendency to bring roots to the surface—to grow upwards in place of downwards—to harbour insect pests, fungi, etc., and to grow weeds. You admit that the expense of procuring and applying mulch is usually considerable, that it constantly requires removing and re-applying, or renewal.

Last year I mulched with banana trash, dry weeds, etc., about 150 acres of cocoa of various ages, in view of the dry season and of drought. I found the weeds quickly grew through and out of the mulch, and there being little or no moisture in the sub-soil, while there was a certain amount of dampness on the surface of the ground, under the mulch, that the roots of the cocoa trees grew

upwards and into the mulch, which on removal left these exposed, to the injury of course of the trees. Even the labourers noticed this fact.

Were a heavy mulch to be always applied, as you suggest, there is no doubt that in dry weather, the roots would grow upwards in search of any moisture to be had.

It is well known that where the soil is loose and friable, it attracts the dew, and absorbs any liquid available at once—whereas if the surface soil is hard and baked, it cannot do so—nor admit the indispensable air.

To mulching I prefer vertical forking—that is to say—driving the fork into the soil perpendicularly, and shaking it from side to side (not too roughly) without turning the soil over. This loosens the ground without exposing or destroying so much of the roots and rootlets of plants, as is done by turning the soil over, or losing so much moisture, and puts it in a condition to benefit by any moisture impending.

R. C.

[There is no system of cultivation but will have drawbacks. It is imperative for the complete success of a mulch intended to carry a crop through long dry weather, that it be applied before the ground is baked hard and when it is moist; given this, the roots will not come to the surface as the soil below will be kept cool and will not dry out. If the mulch is applied when the soil is already baked very dry, then heavy dews or slight rains will not be sufficient to penetrate the mulch; the mulching materials will become soft and damp while the soil below is dry, and the roots will immediately seek the moisture.]

Our weather has been most abnormal, and no one could have foreseen or guarded against a drought of almost two years' duration, a six months' drought being the most that anybody could have contemplated or prepared against at the worst. Therefore, of course, mulches have been applied generally during the drought in the hope of conserving what moisture remained in the soil.--Ed.]

“ALFALFA” (LUCERNE.)

If Alfalfa could be grown here it would be of great value as a stock food in the first place, but also to our soils.

In spite of repeated failures we are convinced that it can be grown, indeed we have proved that it can be grown, and not with any particular coaxing but under ordinary conditions, both in the plains and in the mountains, and without inoculation of the soil in any way. In neither of the places was the soil rich, although both were fallow; one was heavy and one was very light. We had some roots between one to three feet long, and as thick as a fairly grown young carrot.

A great deal has been written about Alfalfa. It has been said to grow in the poorest soils and in the driest climates, but this is not

in any way true. It requires good soil, indeed, the best soil is fine, alluvial soil,—and good rains to start it ; then if it gets underground stores of water, as it would get in most places here, it will be little affected by dry weather. The ground must be broken up thoroughly and made as fine as possible ; there is no use trying Alfalfa in badly prepared soil. If one had a field of Alfalfa, feeding with corn and other grains, could be to some extent discontinued, as the Alfalfa would take its place. We think, therefore, it would be worth while for many who are interested in their stock, especially those who raise good horses and good dairy cows, to put in a patch of Lucerne and give it a trial.

GUINEA CORN.

As has been mentioned by correspondents in the JOURNAL at one time, guinea corn was formerly grown all over the dry districts of Jamaica, and largely relied upon by the people for their own food and for the food of their live stock. In Vere for instance—where you cannot see a patch of guinea corn growing to-day—there were formerly large fields grown by large planters, and every small cultivator had his patch around his house ; you had in fact to walk up a pathway between rows of guinea corn to get to the dwelling. Every evening you could hear the sound of the pestle and the mortar—“pam-pam, pam-pam”—beating out the guinea corn, and children were fed on guinea corn flour pap, and adults on guinea corn flour cakes ; now the people run to the shops to buy wheat flour bread, and do not trouble growing guinea corn or baking cakes. They say they are poor, and still they will spend what little money they have in the shops on many things in the way of food, which they could grow and prepare themselves. On guinea corn flour children and grown-up people were well nourished, better nourished than they are to-day on shop bread, and the reason of this can be now understood, when the Island Chemist has shown that native grown guinea corn contains 14.4 o/o of protein, while white bread does not contain more at the best than 8.8 o/o, cornmeal 10.5, while in digestibility the guinea corn flour and cakes are superior to the ordinary white bread. We should like all the Branch Societies, in dry districts especially, to take up the question of growing guinea corn and discuss it and get their members to plant some. It is so completely out of cultivation in Jamaica that there is no seed available in any quantity, but we have a little which we shall be glad to distribute sparingly, so that some can be planted in August and September, in order that seeds may be raised to plant out on a larger scale from January to April next.

As we are very serious in this matter, we shall issue seeds to Branch members, only through the Secretaries of their local Societies, to be handed only to such as are conscientious cultivators who will take pains to raise a crop. We shall also be glad to give a small packet to all school gardens in dry districts.

Guinea corn if it once gets a start, and it can get a start on a

great deal less-moisture than country corn, will stand a great deal of dry weather, and as it ratoons, several crops can be taken off the same ground by one planting.

"DRY-FARMING"

In some of the semi-arid districts of the United States, such as parts of California, Utah, Arizona, etc., the system of farming known as "dry-farming" has come into vogue, and good crops are raised without the aid of irrigation. The system is only a development of a principle long understood and practised in many parts of the world, though not to the extent nor with the thoroughness that is now practised. This system of dry-farming has been systematised and developed by a farmer of the State of Utah, named H. W. Campbell, and is now called the "Campbell" method.

There are many wheat-growing parts of Australia where the annual rainfalls are not quite 20 inches and a system of dry-farming is being carried out there; but the Campbell system is an improvement upon this. Good crops of wheat have been raised with a rainfall of not more than ten inches. It is all done by conservation of moisture. The ground is deeply and thoroughly cultivated and so made as loose as possible, then it is rolled and again well harrowed, so that there is a blanket of loose earth lying on soft but firm, ground. This land is prepared long before rains are expected, and the surface is constantly kept tilled so as to remain loose; whenever rain comes it sinks in readily, none is lost; it is held by the firm soft soil below, the crops are immediately sown, and being in thoroughly tilled soil with a supply of moisture below, grow with amazing rapidity, and as they grow the surface is kept constantly stirred.

Even with 10 inches of rain, crops of 20 to 30 bushels of wheat can be raised. Here in Jamaica, there is no part of the country that does not get in an ordinary year at least 30 inches of rain, and in the worst of years like what we have gone through 20 inches; that is in the very driest parts where the rainfall is uncertain. If a system of proper tillage were carried out in the plains of St. Elizabeth for example, there could be no better crops for dry lands than those already grown there, as they are habituated to dry weather and a very little rain goes a long way with them; even with their present methods, which we have called "hard soil methods," no preparation is made as a rule well ahead of rains. The ground instead of being softened by cultivation ready to absorb every drop of rain that falls is allowed to lie hard. The rain comes and most of it runs off the surface, only a little sinks in. The cultivator chops a hole in the ground, softened a little by the rain, plants his corn or sticks his cassava in, and then waits until it is necessary to weed. If there is plenty of rain, so wonderfully good is the soil still in many places, he gets crops, but when the rain does not fall the ground becomes as hard as a brick between the plants and very hard around the plants. If the ground were thoroughly broken up and left lying,

waiting till the rain came, immediately there was a shower, seeds could be planted, and if the soil between was never allowed to harden, but kept constantly hoed, good crops would result. This would mean a lot of labour, but then without labour, nothing can be done, while with it everything can be done. Even the slightest shower would be caught by the soft soil and absorbed.

This soft soil method is on the same principle as mulching with vegetable matter or trash. If the soil is made soft and it gets thoroughly moist with rain, then is mulched, it will remain moist through months and months of dry weather, even six months, and grow good crops. The best plan is to have the soil well broken up and thoroughly prepared long before it is wanted, so that it will always be ready to be planted in a hurry if rains come.

SISAL HEMP.

From the annual report of the Curator of the Botanical Gardens in the Bahamas (Mr. W. M. Cunningham, formerly of Hope Gardens) we take the following :—

“The export of sisal fibre for the year shows a total value of £40,140. The average selling price of machine and hand-cleaned sisal fibre during the financial year was 3½d. per lb. The most important industry is the raising of sisal fibre, used for making binder-twine, ropes, bags, mattings, brushes, etc. Its profits can be judged from the prosperity of the Out Islands. Unaffected by heat, drought, storm or insects, the sisal crop is certain, and the price is staple. The Bahamas fibre is said to be of superior strength. Its annual yield is variously estimated at from £3 to £10 per acre.

“The estimated area under sisal cultivation is considerably over 25,000 acres. The output exceeds that of previous years, and the acreage is increasing especially in the Out Islands.

“The enormous trade already existing in sisal, and the increasing demand, with which the production has not yet been able to keep pace, the expansion of the Canadian Wheat Growing Industry, for which millions of pounds of binder-twine are needed annually, and of late the decrease in the output of Manilla fibre, all tend to encourage the planting of sisal.

“Other countries are coming to the front with this sisal fibre industry, which makes it more and more important that no efforts should be spared to bring our product up to the mark in quality. The Hawaiian Islands, Porto Rico, Mexico, and other countries, are setting to work with a will to develop a fibre industry, vast quantities of fibre are produced and coming forward for the American market.”

* * *

A good many years ago a plantation of sisal hemp was established here by Colonel Ward at Moneymusk, but it was given up, owing to the difficulty then of finding effective machinery for dealing with the plant. At the present time, however, there are several machines in the market that are said to be thoroughly effective.

A small plantation has been again set out in Vere, and judging from the confidence in this industry in other parts of the world, we should think it will be very successful. There is talk of another small venture in Trelawny. There are good stretches of land in Jamaica quite suitable for growing sisal. This variety of agave as well as others, and also Sanseveira grow wild in the driest parts, and are common. The most suitable soils are light, dry, well-drained, on a lime-stone foundation, and these are common here, and once the plant is established, no dry weather can kill it out.

This cultivation has made Yucatan, the poorest endowed part of Mexico by nature, perhaps the richest in actual wealth. The export of fibre from Yucatan is about 600,000 bales of a value of $3\frac{1}{2}$ million pounds. The importations into the United States in 1905 amounted to 8,265,819 lbs. at an average of £35 per ton. The price per ton which was £15 0s. 3d. in 1894, has steadily increased every year until now it ranges from £35 to £37 10s. per ton. On dry lands plantations of sisal hemp could be easily and cheaply established, and crops of cotton taken off between the rows when the sisal plants were small.

COCOA IN COSTA RICA.

I FIND the bearing trees are not what they should be ; the chief cause of this is faulty drainage, or more correctly speaking, no drainage at all—this I am now rectifying. Several of the dead trees I dug out to examine thoroughly and found the tap roots three or four inches in mud, though the surface soil was quite dry and looked well drained. I am now digging drains three feet deep, and the amount of water from the sub-soil that comes pouring out is surprising. The wonder to me is, not that the comparative few have died, but that any have survived.

Drainage, however, is not the only thing that is required, as I find a goodly few trees in well drained places which look very unhealthy, dying back from the tops, and with the foliage not as it should be. These I think are suffering from some fungus, and I would like to spray them with Bordeaux Mixture—do you think it would be advisable? and would the spraying increase the next crop? Do you know of any mixture that would destroy moss and lichen on the trees? I find it very expensive to have each one done by hand, and it is not very satisfactory as the roots and spores are left on the trees, and a few months after the operation has to be performed again.

The vast majority of the trees here are of the Calabacillo variety I regret to say, though fair prices are got for the cocoa.

We have a few of the "Matina Grande" variety, and also the "Alligator"—both of these are first class cocoas, very little inferior, if at all, to the Criollo. The seeds of the "Matina Grande" are about three times the size of the Criollo, but it is rather delicate, and an uncertain cropper. The "Alligator" is a very fine cocoa in quality, better than the best Forastero, very hardy and a

good cropper. I would like to send you some pods of both the varieties to try, but do not know of a way to get them over to you—can you suggest any way? I would also like to send you some seeds of the “Poisdon” or “Guaba”—the name the tree is known here by; it is about the finest shade tree for cocoa imaginable. It gives a cool airy shade, not too dense, unless planted too thickly, and the cocoa thrives splendidly under it. A marked difference can be seen in the cocoa shaded by this tree, and those shaded by other trees, and being of the leguminosae, it enriches the soil all the while. It would do a lot of good to Jamaica soil I think.—CORRESPONDENT.

[Our correspondent's experience in Jamaica has shown him the value of drainage, but it might have further impressed upon him that even cultivation on hillsides apparently well drained naturally, have largely benefitted by cross drains. Not only do they aerate and sweeten the sub-soil, and so gain a deeper feeding ground for the trees, but they prevent wash and consequent loss of fertility. We suggest that next year the three feet drains that are draining off so much water be deepened to four feet, and even five feet if the soil still remains clammy.]

We should also suggest waiting a little to see the effect of the drainage on the trees, before trying to treat them above ground. The dying back, the moss, the fungus, are, we think, the effect of the roots being in wet ground, and it does say a lot for the fertility of the soil, that trees could grow and produce crops with their roots “in mud,” as our correspondent says. We should also suggest some pruning to be done, and thinning out so as to let in air and sun more, as the shade on the ground appears to be too dense. After that, if the trees are still troubled with parasitical growths, we should fall back upon the Bordeaux Mixture.—Ed.]

SPRAYING FRUIT TREES.

THE spraying of fruit trees has been attended with many failures and many disappointments, and in very few cases has the operation been entirely successful, though a good deal of time and money have been expended. To understand why sprays have failed so much, it is necessary to realise that although some of the insects may have been killed by the sprays, probably all of them were not destroyed, and so they were again quickly propagated. But even though the insects were all destroyed, the eggs have a large measure of resistance to outside influences, as nature has intended, and these have not been killed, through the spraying not having been throughout, or the spray itself not strong enough, or not made of the proper materials. A spray therefore, should not only kill the insects, but should penetrate the egg shell and kill the living matter within, otherwise the insecticide does not fully serve its purpose. We do not know any of the older standard insecticides now generally used that we could say have been efficient. Again the best

and most efficient insecticide can be badly handled. It is necessary that a spray pump which throws a mist-like spray should be used, so that the fine spray will cover every branch, twig and leaf. Such spray pump can be had to deal with the highest trees or penetrate the thickest foliage of trees.

We saw an exhibition lately of some of the spraying machines by the representative of the machines, and they appeared to be just what are wanted to spray thoroughly and reach every part of a tree.

WHITE SCALE.

SOMETIME ago the Rev. W. Evelyn, Rio Bueno, was having a lot of trouble with the white scale on his citrus trees—some of the lime trees being in a bad condition. He tried the lime sulphur and salt wash, following the directions as published in this JOURNAL. The result was almost immediate and marvellous; trees that appeared to be almost dead started into fresh growth, bloomed and produced a good crop, others not so bad immensely improved. I was anxious to note the permanent result, so after some five or six months returned to inspect the trees and found all of them more or less affected, and some of them very badly. This was apparently because it was impossible to put the dressing on the smaller branches of the trees, and the scale left on these small branches had again spread to the other parts of the trees.—E. ARNETT (Report for May).

[From this it is apparent that one application a year is not enough, and this wash cannot be applied when the trees are in full leaf or are fruiting. A thorough spraying would get at the small branches, twigs and leaves.—Ed.]

COCONUTS.

It has been the established belief that coconuts grow and thrive best upon the immediate seashore, but in an article in the JOURNAL for 1907, January, page 7, an extract from the *Bulletin* of the Bureau of Agriculture of the Philippine Islands was published, which contradicted almost every established belief on coconut cultivation. We then pointed out that there is ever something to learn and ever room for improvement in the methods of growing any crop, so that these ideas were at least worthy of our consideration. The article also pointed out that the application of common salt especially to light soils is positively injurious to the coconut tree. It has been the practice here, where coconut trees are planted back from the sea to apply salt to the roots of young trees, more especially then is salt put in the hole when the nuts are planted. We all know that coconuts will grow back from the sea here and grow well, but the sea breeze sweeps over the whole of our Island; in South America and India, however, coconut trees grow hundreds of miles from the sea so long as the temperature and soil are suitable. At the

same time the coconut must have originally been a sea-shore loving plant. It is entirely fitted by nature for such means of transportation, as it floats lightly, and readily sprouts if kept moist, and sends its roots down strongly into the soil it comes in contact with, however sandy and rocky that may be, so long as the rock is loose like coral rock or some of our limestones. Even as doctors disagree, so do expert agriculturists differ apparently, but some of the scientists in connection with the U. S. A. Department of Agriculture, in their energy and zeal are too fond of propounding new theories and too ready in recommending the discarding of practices that have stood the test of commercial results. We would rather put faith in the results of investigations where coconuts have been grown for many centuries, and to such an extent that observations of everything that might affect the trees have been very keen and close, and methods have shown little theory and no sentiment, but every simple practice has been based on what produced the best results under the local conditions.

The following is an extract from a report on the coconut disease in Southern India by Dr. E. J. Butler, Imperial Mycologist to the Government of India :—

“ It is possible therefore to distinguish three more or less distinct zones of coconut cultivation : the littoral, with sandy soil not much raised above the water level and comprising the largest part of the area under coconuts : the part adjoining the backwaters, equally low-lying, but with soil largely formed of salt : the sub-montane, extending inland to the foot of the hills with a deep red or blackish alluvium along the valleys and a shallow, generally poor laterite on the hills. The palm thrives best on the sand of the coast and the sandy loam around the backwaters within ten or fifteen miles of the sea. Towards the hills it is less productive ; fine gardens occur in the valleys but those on the hill sides are poor. The climate of Travancore is remarkably equable all the year round. The mean day temperature of the year is about 80 deg. F., the mean maximum of the year about 87.5 deg. F., and the mean minimum about 75 deg. F. Higher readings than 90 deg. are rare, and lower than 70 deg. still rarer. The rainfall shows two well-marked progressive increases from south to north and from the coast-line to the hills. Thus it increases from an annual average of 30 inches near Cape Comorin in the south to 114 inches at Alleppey and 117 inches at Parur in the north of the State, and again from 114 inches at Alleppey on the coast to 198 at Peermade in the hills. There is no long dry period, rain falling as a rule every month throughout the year, though December to March is comparatively dry. January is the driest month. Precipitation increases until the arrival of the south-west monsoon. June is the month of maximum rainfall. Then there is a diminution again until October when, with the north-east monsoon, a secondary maximum is reached. As the coconut is said everywhere to require a warm and moist climate with an equable temperature, it will be evident that Travancore fulfils its climatic requirements perfectly. It is said also to flourish best

sufficiently near the sea to allow of the sub-soil being infiltrated with sea water. Different analyses in India, Ceylon and the Philippine Islands seem to show that a heavy crop removes over a hundred pounds of potash salts and over sixty sodium chloride (common salt) per acre per annum, and may explain this preference. Be that as it may, a large proportion of the best Travancore coconuts are in soil which is infiltrated with salt or brackish water. That this salt is a necessity to the tree is evidently believed in many coconut growing countries where, as in Travancore, an application of salt to its roots is frequently made. Its requirements in potash and magnesium are probably supplied in part by infiltrated sea water in low-lying littoral or backwater soils. Elsewhere they are furnished by dressings of wood and leaf ashes (largely of the coconut itself) applied around the base of the tree. Beyond this a limited amount of manuring with coconut or other poonac, cattle manure; fish manure and occasionally bones is practised. The palm responds remarkably quick to fertilizers, and there is certainly much room for improvement in indigenous practices in this respect. The prosperity of Travancore—admittedly great—depends primarily on its coconut industry. It is difficult to ascertain the exact area under the palm, combined as it is with every other sort of cultivation except in the dry area of the south, on paddy lands, and in the hills. One estimate gave 250,000 acres under palms. The exports for 1903 were approximately a crore of rupees' worth of all kinds of coconut produce, oil, copra, coir and nuts. The internal consumption is very great. Apart from those actually engaged in palm cultivation—land-holders, tenants, labourers, etc., the coir industry alone supports 133,047 persons according to the census of 1901. One of the densest populations in India (six of the taluks have over 1,000 persons to the square mile and three over 1,300) is maintained primarily by this palm. It is natural that any diminution of yield due to disease should have forced itself not only on the notice of the cultivators but of the State authorities. Still it is an indication of the insidious nature of the attack of the disease here dealt with that, though Minachil has been affected for thirty or forty years, it does not appear to have been brought to the notice of the Government until much later, in a memorial from the ryots of Kaviyur and Kaloopara, dated 24th April, 1897. Even yet the serious state of affairs is not realised in many localities where it is considered a passing affliction, though the experience of the older affected localities, such as Minachil should serve as a warning. The extent of the damage already caused by this disease may perhaps be gauged by the fact that, in spite of the rise in prices in recent years, the trade in coconut produce accounted only for 32 per cent. of the entire State exports in 1905-1906, against an average for decades past of nearly 50 per cent. In the short time at my disposal I was unable to ascertain the exact limits of the area said to be affected by the disease.

“The symptoms are those of a slow and progressive deterioration of the palm, in sharp contrast to the rapidly fatal palm disease of

the West Coast. They are not always developed in the same order and some, such as an exudation of gum from the trunk, are only occasionally found. As a general rule the first indication that a coconut palm is attacked is the opening out of the outer leaves from the head. The leaf stalk becomes slightly flaccid and the weight of the leaf causes the whole to droop. Then the ends of the pinnæ or leaflets at the extremity of the leaf become flaccid and hang down almost vertically. This is accompanied by a loss of colour; the drooping and discolouration of the leaflets then extend gradually backwards to the whole leaf. Later on the tips of the leaflets turn yellow and dry up, followed gradually by the entire leaf, which eventually hangs down withered from the crown. The attachment of the leaf sheath to the tree is weakened so that the outer discoloured leaves can be easily torn off from the crown. One after another, or many together, all the leaves are similarly affected; intermediate conditions are common, young trees often have a large proportion of leaves healthy with only a few yellowed, others have all the leaves equally discoloured and drooping at the tips of the leaflets, before any dry up. Gradually, as the palm weakens, new leaves that are put out are smaller than of old. This is apparent even before they unfold from the bud, and results in the central or leading shoot, which is merely the unopened new leaf bud, becoming stunted and pallid. Later on it begins to wither and the upper free part turns brown. Eventually it may dry up altogether, but this may not occur for many years. Even in the first year or two the nuts are affected. They are fewer and smaller than usual. On splitting, the husk is found unaltered and usually the shell also. The white kernel is, however, shrivelled and indurated, and copra prepared from it is said to be deficient in oil. The fluid inside is reduced in quantity (or even I was told sometimes absent, though I did not see any such case) and is altered in quality, becoming unpalatable to drink. In later stages a large proportion of the nuts drop in an immature condition. In more severe cases the spathes are unable to burst out at all or, if they do, rot away early and the palm becomes barren.

“In healthy palms a bunch of nuts is given about every two months. The best trees in the sub-montane districts yield about sixty to eighty nuts a year. Nearer the coast the yield may rise to eighty or a hundred, though the average is much lower. I was shown one fine palm that gave, up to a year or two ago, an average of twenty nuts per bunch: it is now diseased and gave this year only three or four. The top of the stem and the white internal part of the crown (known as the “cabbage”) are quite normal, except in old cases, just before death when the latter rots. Even in severely affected palms no trace of the disease or of any unhealthy condition can be found in these parts. The rest of the stem is equally healthy in appearance; I was told that wood from diseased trees is weaker than from healthy and it is certainly more spongy in texture. In some cases cracking of the rind with exudation of gum occurs in the early stages; it is not a general symp-

tom but only seen in a few cases. As in palms everywhere, discoloured patches on the rind are frequent, but they are mostly superficial and entirely unconnected with the disease. A brown discolouration frequently appears after cutting open the trunk. This is apparently more marked in diseased than in healthy trees. It is not visible when first cut, is quite unconnected with any parasite, and is probably due to an oxidation process."

THE LIFE CYCLE OF A TICK.

THE life history of a tick is not a simple thing. The general opinion is that ticks are given birth by the mother tick, that they very soon after get on to any animal which brushes against the grass or bush where they have climbed, get filled up with blood in a day or two, drop off, hatch young ticks again,—and so the cycle goes.

Not all varieties of ticks have the same life cycle, but a close investigation has been made in Natal of one of the varieties of ticks most virulent in causing fever there, and it will be seen how complex the life of a tick really is. The Government Entomologist in Natal, says in his report to the Minister of Agriculture as follows :

1. I have carefully reviewed all reliable references bearing upon the subject, and base my statements upon unimpeachable authority.

2. The life cycle of the Brown Tick has been definitely ascertained to be as follows :—

	Minimum.	Maximum.
<i>a</i> Egg Stage	13 to 35 days	5 months.
<i>b</i> Larva stage (searching for host)	1 day	6 months.
<i>c</i> Larva feeding	3 days	12 days.
<i>d</i> Larva moulding into nymph	16 days	26 days.
<i>e</i> Nymph searching for host	1 day	7 months.
<i>f</i> Nymph feeding	2 days	6 days.
<i>g</i> Nymph moulting into adult	20 days	3 months.
<i>h</i> Adult searching for host	1 day	6 months.
<i>i</i> Adult female feeding	4 days	12 days.
<i>j</i> Adult female resting between leaving host and commencing to lay eggs	6 days	37 days.
	67 days	28 months.

3. The maximum period of 28 months shown in the above analysis could only occur with a winter of 12 months' duration.

4. Actual experience shows that the whole cycle of development is undergone in a period of 73 days as a minimum and 7 months as a maximum.

5. Dipping regularly every 14 days has been conducted for nine months without injury to any animals, cows in calf and just calved being dipped without any ill effects.

6. Regular dipping or spraying at intervals of eight days has been found to blister after two treatments ; and, if continued, will result in skin sores and skin poisoning.

7. Regular dipping at intervals of 14 days for a period of nine months does not eliminate ticks from a farm, although it considerably re-

duces the number. Even Blue Ticks (the easiest dealt with) have been found present after nine months regular dipping at this interval.

8. Dipping at intervals of eight days has no effect in preventing East Coast Fever *on infected veld*, and a lesser interval cannot be contemplated.

9. Ten days must be regarded as the minimum interval between dipping or spraying of cattle.

10. Ticks will go on to sprayed or dipped animals as soon as they are dry; and, in view of the fact that a nymph may feed no longer than two days, no practical treatment could be devised to destroy such before they acquire infection from a diseased beast. This contention is not weakened even if the maximum period spent by the nymph in feeding, namely, six days, is the more frequent occurrence.

11. Dipping as a control method *on infected veld* cannot be entertained.

12. Ticks do not travel any distance of their own accord; they are spread abroad by "any moving object" which may brush against them. Their instinct leads them, when rendered active by warmth, to climb up any adjacent object, and to seize upon any passing object animate or inanimate. Further, they possess specially organised limbs for carrying their native instinct into effect.

13. Moving objects may be classified as animals (man, beast and birds), clothing, vehicles and wind-borne grass stems.

14. These means of distribution are practically only potent when the grass is long. Even cattle have less ticks upon them when the grass is short.

15. Practical experience shows that distribution by birds, vehicles, clothing and wind are not factors of any consideration in the distribution of pathogenic ticks.

16. The tick bird is to be regarded as the least important factor of any in the possible distribution of ticks of any sort. This bird feeds upon ticks in all stages. A tick climbing on to a bird either from the veld or from a beast, if not immediately picked off and eaten, would be devoured directly the bird noticed its presence.

17. The blood noticed upon the beaks of tick birds is that imbibed by large ticks which are pecked before being swallowed. Transmission of East Coast Fever or any other tick-borne disease by this blood is absolutely impossible.

COTTON CONFERENCE IN BARBADOS.

IN summing up the various addresses at the Cotton Conference held in Barbados, Sir Daniel Morris referred to the striking success that had been obtained by one planter as the result of skilful methods of seed selection. There was reported to be 6,935 acres of Sea Island cotton grown in Barbados alone, and the value of lint and seed in spite of low prices, would not fall short of £100,000. Wider planting is now advocated from five to six feet between the rows and eighteen inches to twenty inches in the rows. In Jamaica, however, we would require not less than six feet by two to three feet. Ten years ago the price of Sea Island cotton was lower than it is now, and during that period since then it had improved steadily until this year. The present depression in prices is not due to over-production, but to the wide spread depression in

trade, caused by the severe financial crisis in the United States. Sir Daniel Morris stated that he had been assured, a twelve month ago, by a prominent Lancashire cotton spinner, who expended annually two million pounds sterling in the purchase of Sea Island cotton, that if the West Indies grew a good strong cotton of uniform length, such a demand would arise as would admit of a large extension of cotton cultivation in these islands without risk of the supply, on an average of years exceeding the demand. A strong recommendation is made not to allow old cotton to remain in the field after the crop is picked.

PRIZE HOLDINGS COMPETITION.

In several of the districts it is gratifying to notice the increased provision which has been made for catching water on several of the holdings entered for the Prize Holdings Competition. At the time of the judging they were deficient in this respect, and of course lost marks. Quite a number recognising this weak point in their holdings started to build tanks, and during the recent trying drought, the tanks they were induced to build have been a great boon to them.

One is constantly meeting similar points of practical usefulness as the result of the Prize Holdings Competition. Improved water supply, improved fences, better arrangements for carrying stock, the utilization of manure, which was allowed to waste, etc.

E. ARNETT (Report for May.)

[We have ourselves visited holdings in St. Ann where neat and capacious tanks have been installed, entirely the result of the stimulus caused by the Prize Holdings Competition.—ED.]

CLEAN MILK.

WHILE our milk supply is open to the gravest suspicion as regards cleanliness, yet it is not always the dairyman who is to blame for bad milk; that is, when an outbreak of infectious disease is traced to the use of cows' milk, or when milk goes readily sour. The *New York Tribune Farmer* says, and it applies even more here:—

“Not one family in five knows how to keep, preserve or use a can or bottle of milk after it is delivered.

“Not one family in five has given the care and preservation of milk any consideration.

“Not one family in five has a suitable place in which to keep a can or bottle of milk after it is opened.

“Not one family in five takes any interest in the cleanliness of the milkman or in the consideration of the milk or package.

“No other product is so carelessly managed in the city household as is milk. It is not time to teach the house-keeper that, no

matter how pure the milk may be when she buys it, it will not remain so unless she puts it in a clean place and surrounds it by a pure atmosphere? It is all right to get after the dairyman and make them clean up and keep clean. It is all right to inspect their stables and make them models of cleanliness.

“Much of the milk sold in the cities is re-bottled and manipulated in rooms that are foul, and the atmosphere of which is loaded with the greatest variety of germs.

“And in connection with the question of infant mortality, let me say that there are many other causes for the large percentage of deaths among children. One is the crowded conditions of the tenement buildings; another is impure air; another can be found in impure water; another in the filth that covers many of the articles of food as seen upon stands and in stores. But another may be in the artificial methods of raising children that are now so popular. And why not lay the blame for some of this trouble to the use of artificial foods. Maybe, if we would get back to natural methods the rate of infant mortality would decrease.

“It is time for the dairyman to assert some of the facts that pertain to his defence.

“Up to date no food has been discovered that is so good for the average baby as clean, pure, fresh milk.”

COCKROACHES.

THE so-called black beetles or cockroaches, are not true beetles but belong to the order *Orthoptera*, the technical name being *Periplaneta*. Eggs are laid, and the young forms which hatch out resemble the parent, except that they are smaller, wingless and immature. These young grow and moult until they become winged adults. Cockroaches may do much damage to provisions in houses, stores, &c., and are frequently a great pest. They may be dealt with as follows:—

(1) Persian insect powder (*Pyrethrum*) or Keating's insect powder may be thoroughly dusted amongst their haunts; this will at least stupify the cockroaches, which should be swept together and dropped into boiling water.

(2) Flour and sugar may be mixed with a little plaster of Paris, and the mixture spread in the runs; the insects which eat the mixture will be killed.

(3) Steep-sided basins containing some sweetened liquid may be placed here and there where the insects are troublesome. Little pieces of wood should be placed against the basins, so that the cockroaches can reach them, and once they have got into the basins the wingless forms will be unable to get out. The cockroaches trapped should have boiling water poured over them, thus causing instantaneous death. Patent traps for destroying cockroaches may be purchased.

WRONG USE OF LIME.

A FRIEND told us this story. He had a neighbour who was quite an energetic farmer, but who was always sneering at what he called "book farming." He didn't want any book knowledge in his, he said. He had heard that lime was good for land and he had a chance to get several loads for nothing that had air-slacked on a dealer's hands in the village. He had a large pile of manure in his barnyard, so he drew home a number of loads of this lime and mixed it with manure, calculating to haul it out in the fall of his land. To his astonishment, the whole of the manure was fire fanged and spoiled. Our friend said to him: "If you had known something of the chemistry of lime and its effect on organic matter you would have been saved this costly mistake."

Lime should not be used in stables in connection with manure for it liberates the ammonia which is the most valuable element in the manure.—*Hoard's Dairyman*.

[One-third of the weight of wood-ashes is lime, and we see a good deal of the wrong use of this in being flung on animal manure stored for future use.

For closets wood-ashes are constantly in use, whereas they are not so good a deodorant as earth. Wood-ashes are really too valuable a fertilizer for the garden, to be wasted.—*Ed.*]

RUBBER AND ALTITUDES.

CASTILLOA RUBBER is conceded to be strictly a tree of the tropical lowlands; a native of hot and humid localities, where deep moist soil prevails, but not objecting to a period of dry weather, if that is not extended beyond six months. In Mexico, six months wet and six months dry weather is the rule.

Para rubber, although at first thought to be of the same habit as Castilloa, preferring even more heat and moisture, even to wet lands, is now proved by experience in Ceylon to be much more versatile. There it is grown successfully up to 3,000 feet, and often in pockets in rocky hillsides. One of the best samples of rubber at the rubber exhibition held in Ceylon, was grown at a rather high altitude. Here its limit, we should estimate, would be under 2,000 feet, probably not over 1,500; over 2,00 feet, the variety of rubber which is recommended, is the Virgen rubber of Colombia, found growing there between 3,000 and 6,000 feet. Of this rubber, it is reported that it grows into a great tree and yields rubber of the finest quality very largely; indeed if the figures given are correct, more largely than any other tree. All these rubbers require rich soil and a good rainfall. Funtumia, is a West African rubber not so much written of as Castilloa and Para, but it requires apparently the same conditions as the former. Ceara rubber is of the Cassava family and requires the same conditions of soil and climate for its growth. It grows, however, into a large tree. It is

suitable for the drier parts of the island. Then, there is another rubber growing in the dry climates, not so well known however, as Ceara, called Manicoba, formerly thought to be the same, but now known to be a different species of the same family, but a much more vigorous grower and better rubber yielder. Both of these would grow in dry parts up to 1,500 feet here.

COTTON.

In the average district of Jamaica, suitable for cotton growing, and with the average weather between 1897 and 1907, cotton could be safely planted in March and in August when corn is usually planted, and it would not be wise to take the experiences of last August and this March, when there was very little, and in some places, none of the usual showers expected in the average year. It would not be wise therefore, from the experiences of one year to plant earlier or later with the idea of getting better seasons. If we plant later than August, or at the latest 15th September, the cotton would not come in early enough to be picked by the middle of April. But in this connection, we must say, that irregular flowering, irregular bolling and irregular quality, are caused in a great measure by planting too close. It is necessary for sunshine to get at all the plants as evenly as possible; if this is secured, the crop will be very even, and by planting in August, the plants will flower in December, the cotton can begin to be picked in the middle of January and be picked off by the end of March.

Sea Island plants here grow larger than is usual in most other places where it is grown, and we have to allow for this by planting wide between the rows. This too, will allow of better tillage until the plants are in blossom. If the land is early broken up to begin with and made fine with cultivator and harrow, and the preparatory cultivation is all done by the end of July, the fields should be in good tilth, waiting for the August rains. Immediately rain falls, planting should take place, and as soon as the plants appear, the cultivator should be kept going to keep the soil loose and never allow it to cake or get hard, and to prevent insects getting a hold. Even close round the little plants, whenever a crust forms, it should be broken with the hoe. If the soil is thus kept loose, very little rain will suffice to keep the plants going, but the moment the land is allowed to bake, especially close to the plants, they will get a set back. Land when baked may appear dry and yet be quite moist below, and when irrigation is available, water is put in, when a good stirring with the harrow-toothed cultivator would do more good. Whenever irrigation is used drains are a necessity. When cultivating by hand, plants can be closer, but for the height the plants have grown here, we think 6ft. by 3ft. not an extravagant width to allow for horse tillage, and 4ft. by 3ft. suitable for hand cultivation.

Last year every rule of the weather seems to have been re-

versed, but we trust that from now the weather will resume its normal behaviour and allow of planting in August.

COMMENTS.

SHOWS TO BE HELD.—Newmarket Show, 9th November ; Santa Cruz at Malvern, 9th November ; Bath Show at Bath, November ; Manchester Show at Kendal, 6th November.

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GENERAL MEETING.—A special general meeting of the Society will be held on Thursday, 17th September, 1908, at 12.30 p.m., at the new office of the Society, 11 North Parade, Kingston, the business being to revise the rules of the Society.

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POTATOES.—We shall now be glad to receive the orders of members and Branch members for seed potatoes. We cannot supply less than a barrel, and a deposit of 14s. per barrel must accompany the order. The potatoes should arrive in October.

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WHITE SCALE.—This is the most serious trouble to our economic trees that we think has ever occurred among any of them. We note that lady birds of different varieties are being introduced into Hawaii to prey upon different scales.

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JIPPI-JAPPA hats are all the fashion here now ; the hatters windows are seemingly full of them. They are without question the most stylish and appropriate summer head gear to be had here.

California oranges are yet with us, 40, 50 and 60 cents a dozen, and Montreal is flooded with pineapples from 10 cents up.

Limes, I notice, are labelled twenty cents a dozen.

MONTREAL CORRESPONDENT, July.

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INSTRUCTORS.—Mr. Cradwick is at present on leave of absence, but should return in October to take up his work in Portland and St. Mary. Mr. R. H. Elworthy, who was appointed to act as Mr. Cradwick's substitute, has been withdrawn from the work. Mr. Briscoe returned from his leave on 24th July and is now residing at Castleton Gardens, from where he will attend to his duties as Instructor for St. Andrew and St. Thomas.

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RAINS.—While the heavy rains of early June were a blessing, yet we have been disappointed that they did not after all, mark the return of normal weather. Very little rain has fallen since, but most parts have had showers enough to keep vegetation green. We trust that in the middle of August, our old corn rains will fall as they usually do by the 15th inst. We feel sure we shall get them, but it is a question of extent—we want heavy and steady showers

now, that will again fill ponds, saturate the sub-soil, and fill our streams.

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MR. J. H. HART.—Mr. John Hinchley Hart, Chief of the Botanical Department in Trinidad, has just severed his connection with that island after a service of thirty-two years and four months. He has purchased a house within sight of the Botanical Gardens, and intends to open an office as an expert adviser in tropical agriculture. A portrait of Mr. Hart appeared in the *West India Committee Circular* of May 23rd, 1905, when he was Commissioner to the Colonial Exhibition. The Trinidad planters are to be congratulated upon retaining a continuance of his services.

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BAKER MEMORIAL FUND.—We desire to call attention to the advertisement in this issue, notifying that the *Jamaica Daily Telegraph* has opened a fund for the erection of a memorial to the late Capt. Baker. We need not mention what Capt. Baker has done in the commercial history of the Island; everybody knows about him and his work, and it is a desirable thing that the good that men do should not be buried with their bones, but commemorated in some tangible and visible way. Therefore, we commend the Baker Memorial Fund to the sympathies of our readers.

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BULLS.—We still await offers for the purchase of the red and the roan Shorthorn bulls. The former will be brought from Montego Bay to Kingston this month, to be under veterinary care for a time, and the metropolis is a better centre than St. James for the animal to be seen. The roan Shorthorn has been removed to Tobolski, Brown's Town, where over twenty calves by him may be seen. This bull is now in good physical condition, and we guarantee it to be serving as readily as can be desired. Such bulls could not be imported here for less than from £35 to £40, with the risk of the voyage and acclimatisation.

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SHOWS.—The ninth St. Ann's show at Thicketts, held on August holiday, the 3rd, had fine weather, good attendance up to the average, but exhibits rather under the average, especially horses and cattle. His Excellency the Governor opened the show, and it passed off satisfactorily. Some say that this show should not be held on the August holiday, as there are races in Kingston on that day which keep away some supporters. The show, however, has always done well on that day; it is fixed for the people of St. Ann in general, and is more important to them than races in Kingston, while it would be asking too much of people to take another holiday in the same month. To attend an agricultural show is the very best way this especial public holiday can be spent. Miss Ffrench Mullen acted as Secretary of the show in place of Mrs. Arthur Douet, who is now a resident in St. Andrew. The postponed St. Mary show

at Port Maria was also very successful, though, we think, not quite so successful as the show on the original date would have been, had the weather allowed it to be held. The weather was grand, the attendance very good, though not quite up to previous shows, and the exhibits many, and excellent on the whole. All the various fruit companies were buying bananas that day, and this must have kept hundreds at work. The Governor opened this show, and received an address, to which His Excellency replied. Mr. J. A. Benjamin was Secretary of the show.

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The Hanover show at Lucea was not up to the standard of previous shows, and was not supported by the agriculturists of the parish as it ought to have been. The Director of Agriculture, Hon. H. H. Cousins, opened this show, receiving and replying to an address presented by the Hanover Agricultural Society. Mr. Fyfe Roxburgh acted as Secretary of this show in place of the Rev. J. F. Gartshore, who is in the island of Grand Cayman for a short time, and interesting himself in agricultural societies there.

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FORESTRY.—In no other country was the warning of depleted woods, change of seasons, and irregular rainfall taken note of and acted upon, as in Germany. In addition to the wood-supply question, Germany was forced to undertake forestry by the means of protecting agriculture and stream flow. The trouble which France was having with her mountain torrents opened the eyes of the Germans to the changes of flows in their own land.

What has forestry done in Germany? Starting with forests which were in as bad shape as could be which had been recklessly cut over, it raised the average yield of wood per acre from 20 cubic feet in 1830 to 65 cubic feet in 1904. During the same period of time it trebled the proportion of sawn timber got from the average cut, which means, in other words, that through the practice of forestry, the timber lands of Germany are of three times better quality to-day than when no system was used. And in fifty-four years it increased the money returns from an average acre of forest sevenfold. Yet to-day the forests are in better condition than ever before, and under the present system of management it is possible for the German foresters to say with absolute certainty that the high yield and large returns which the forests now give will be continued indefinitely into the future.

In April JOURNAL we published an article on the serious shortage of timber throughout the world, and the effect of the want of the umbrageous covering and the matting of roots, to the earth, especially at the sources of streams. But we are too indifferent to all this!

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RATS.—We trust our readers will not lose their interest in the matter of the destruction of rats. For the household the best of all rat catchers is the tabby cat, but so few take to rat-

catching. Therefore, as the rat plague has become so large a concern of agriculture, we think some attention might be given to the question of breeding good rat-catching strains of cats. We believe this can be done, and there would be a good demand for kittens likely to turn out good ratters. Of course, a good deal would lie in the training of the kittens, just as with dogs. For the field the cat is not a practicable method, and we must use dogs, traps, poison, virus, and inoculated rats,—in fact, all methods known to us. In places where rats live in holes in the earth, bi-sulphide of carbon poured on a piece of cotton flung in the holes, which are then stopped up, soon kills the beasts. We note with dismay people shooting owls—whose chief food is rats!

POULTRY NOTES.

THE idle hen is always eager for the feed that comes easily but gives no return for it in eggs. The busy hen does not wait for feed to be brought to her, but hunts for it where she expects to find it. Half the amount of feed is made more use of by the latter hen than a gorge of feed from a full trough by the lazy bird. Keep them working all day.

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If you find the eggs soft-shelled, it generally means a lack of lime or grit in the hopper. But if the eggs in addition to being soft-shelled, are uneven in shape, and softer in some spots than others, it may mean that the hen is too fat. In this case reduce the fattening part of the ration, feeding less corn, buckwheat and wheat, and more oats and vegetables.

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EGG LAYING COMPETITION—The final result of the Queensland Competition for twelve months, showed the pen of White Leghorns belonging to Mr. A. H. Padman, Adelaide, South Australia, to be winner, with a total of 1540 eggs. Mr. Padman's pen of White Leghorns was also second in the Roseworthy Competition, South Australia, with 1528 eggs; three less than the first pen which laid 1531 eggs. In the West Australian Competition which has only gone nine months, Mr. Padman's pen of White Leghorns is first with 1217 eggs. The winning pen of the Queensland Competition was sold for £35 to go to New Zealand.

In all the competitions, however, Indian Runner Ducks have beaten hens easily for number and weight of eggs laid.

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THE MONGOOSE IN CUBA.—In March, 1904, I was in Havana, and saw several mongoose for sale in the market. The Cubans said they were very bad, and should be shot. Some one had introduced them to the west end of the island. They are now spreading eastward, and are in the province of Santa Clara. Cuba suits them

down to the ground, as it is full of snakes (harmless), lizards, also a fair quantity of ground birds, such as wild guinea fowls, quail, ducks, clucking hens, a variety of starlings that nest on the ground, pea-doves, blue-headed partridges, houteas, alligators (mongoose eat the eggs), besides several small birds that feed on the ground, and nest in low bushes. Americans who have visited Jamaica and have experienced the silver tick (grass lice included), curse these, say Cuba will be just as bad in time, after the mongoose have destroyed the lizards, and tick-eating birds. Cock-fighting is a great institution, and the fowls are raised semi-wild. The mongoose will put a stop to that.

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THE GAME COCK IN CUBA AND THE MONGOOSE.—Cock-fighting being a great institution in Cuba game fowls are raised in large numbers. The usual way is to select a tree in a pasture or a piece of woodland, near a river, a pond, or lagoon. I know an ideal spot. A belt of wood on the bank of a river which has a stretch of gravel, on the other side, is a pasture. A game cock, and say three or four hens, are taken to the tree which is to be their headquarters, a spot is cleared away, should there be no water near, a leaking demijohn is placed near the tree (with water). The games are intelligent and take in the situation, that tree is to be their home; a quart of corn is thrown down and the fowls left, and are fed every day *on the same spot. That is where the evil lies.* The Cubans tell me there is more yaws and more fowl sickness in dry years than in wet ones. I take it, that in wet years the heavy rains clean off the spot where the fowls are fed, in other words wash away all the droppings, but in dry years all the droppings remain in the feeding places. Game fowls are rather valuable; untried cocks fetch from two and a half dollars to three dollars against 3s. for a common cock. A champion fighter may be worth from \$25 to \$50 dollars. A Cuban peasant thinks nothing of backing a cock for \$25. Rum and cock-fighting ruin many a Cuban peasant. These semi-wild games raise very few chickens. The hens wander through the high grass with the newly hatched chickens and lose a lot, then rats must eat some. However, snakes are blamed for all the losses. Game fowls being courageous, are easier tamed than any other fowls; many have gone wild, but on being caught and pegged out for four weeks or so, become perfectly tame, which is not the case with wild dung-hill fowls. It is no unusual thing to see two game cocks tied (tethered) under a Cuban's bed, being tamed for fighting. I know a man who often has from six to eight game cocks pegged out near his house. The Cubans from Jamaica say there is a great deal of cock-fighting in Jamaica amongst the Cubans. [We know there is.—Ed.] Cocks from Jamaica are in great demand here. A man tells me he had once a champion cock in Jamaica. The father was an English game cock and the mother an Indian game.—R. T. TAYLOR DOMVILLE.

[We are interested in these notes from Cuba, but not in the game cocks nor cock-fighting. What we note particularly is this—

the confirmation of our defence of the mongoose. Now, we are no friend of the mongoose, but we do hate that unreasoning, illogical, hate which ascribes to him the losses perpetrated by the owl and hawk, John Crow and Blackbird, and most of all, rat, boy and shotgun. How can the mongoose be the cause, for instance, of the scarcity of bird life outside of ground birds? Snakes and rats used to cause a thousand times more loss than the mongoose. In Cuba we see snakes are blamed for all the losses of chickens. Here, rats take twenty chickens and ducklings for every one taken by mongoose, and if we had not the mongoose we could hardly raise a chick at all, now that the other enemy of the rat, the snake, is gone. We ourselves have a case in point. We congratulated ourselves that with four terriers continually hunting through the grass and rocks, we should not have fear of mongoose taking our chickens. Just so, but we have lost more chickens than ever before by rats who occupy every tree, every rock hole, every old stump, and will swarm around the house, at the slightest cessation of the efforts against them, far too smart and cunning for dogs to catch, and difficult to trap and to poison. The mongoose is neither smart nor cunning. Rat poisons, rat virus, and traps, are now the order of the day and night. Settlers now complain that rats are eating their canes wholesale and their coffee, their cocoa, their corn from the time it is planted until it is picked, the swelling grain, the sweet stalk, the filling cob. The cry will soon be—give us back the mongoose !—Ed.]

BRANCH NOTES.

Above Rocks.—The regular monthly meeting of this Branch was held in the St. Mary's schoolroom on Friday, July 17. Mr. A. E. U. Shakespeare presided, and among those present were: Messrs. Charles R. Creary, Simon Richards, Edwin B. Galloway, Hubert Burnett, Edward Douglass, David Nelson, J. D. July, and the Secretary. The chief business was the consideration of the rules, as drawn up by the Committee appointed at the previous meeting, and the comparing of these with the rules suggested by the Secretary of the parent Society. All the members took part in the discussion which followed. The Secretary read letters from Mr. Barclay, and it was decided to thank him for his notes and suggestions *re* the working of the Society. The discussion on the subject of police protection for the district proposed at the previous meeting was next taken up. It was pointed out that there was no district constable in the district, and that the nearest police station was 16 miles, and the nearest J. P. was 11 miles off. It was urged that these conditions made it difficult to deal effectively with cases of prædial larceny; and the President, Vice-president and Secretary were appointed to draw up a petition to be presented at the next meeting and signed, craving remedial measures in these matters. The meeting then adjourned after singing the National Anthem. The next meeting will be on the 21st August, when it is hoped the members will all be present.—W. L. F. VASSALL, Secretary.

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Stewart Town.—On the occasion of the visit of Mr. John Barclay, Secretary of the Jamaica Agricultural Society, to this district, a special meeting of this Branch was held on Tuesday evening, the 28th July, when Mr. Barclay spoke on matters relating to the interests of the So-

ciety. Mr. E. Arnett, the local Agricultural Instructor, was also present. The attendance while not a very large one, was appreciative, as shown by the unflagging attention paid throughout the address which lasted for over an hour. Not only were members of the Branch present, but also other persons interested in agriculture. The Hon. and Rev. W. M. Webb, President of the Branch, occupied the chair. He gave a warm welcome to Mr. Barclay, in which the audience joined by a hearty clap of the hands. This is Mr. Barclay's third visit to Stewart Town. He first visited the district on Tuesday, 27th December, 1904, to lecture on Cotton. His next visit was on September 30, 1907, when it was decided to form the Branch. Mr. Barclay spoke on the value of the Agricultural Society to the Island. He gave a brief history of the Society from its formation to the present time, and touched upon various features of the Society's work, such as the good it has done in improving the breeds of cattle and pigs; in taking steps for the destruction of ticks which at one time were so plentiful and occasioned a good deal of harm to stock, especially cattle; in appointing Agricultural Instructors, who are doing a good work throughout the Island, and he hoped the time would not be long when it would be possible to have an Instructor for each parish; in starting Branch Societies by means of which not only matters of general agricultural interest are discussed, but local matters relating to the material and social welfare of the community are dealt with, and proper steps taken to have evils remedied—such as in the matter of roads, markets, the prædial larceny question, and the rat pest etc.; in publishing the AGRICULTURAL JOURNAL by which agricultural knowledge is disseminated; in promoting Agricultural Shows which act as an incentive to planters, so that each tries to produce his best, and which also stimulate general interest in agriculture. The Prize Holdings Scheme, and its value, was also touched upon. Mr. Barclay, in concluding his interesting address, said that every man and woman, if a true citizen—a true patriot—should be interested in agriculture. At the close of the address, several practical questions were asked, which Mr. Barclay satisfactorily answered. Two samples of Sea Island Cotton grown by two of the members of the Branch, were shown to Mr. Barclay. He pronounced them very good samples, and stated that it is better for each member to plant a small amount than to attempt planting a large area. On the suggestion of the Chairman, a vote of thanks to Mr. Barclay for his instructive address was moved by Mr. John Stockhausen, seconded by Mr. James Smith, and unanimously carried. The meeting then terminated. The Rev. W. S. Lea of First Hill, sent a request through Mr. Arnett, that his name be enrolled as a member of the Branch, and forwarded his subscription. Thus another new member has been added. Mr. Barclay accompanied by Mr. Arnett, visited the banana and cocoa plantations at Dornoch and Home Castle Pens on the following day.—JOSIAH JOHNSON, Secretary.

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Port Royal Mountains.—The annual general meeting of this Branch was held at Mount Fletcher on Saturday, July 25th, the Rev. C. H. Coles presiding. The Secretary intimated that the Rev. N. A. Baquie expressed his regret at not being able to be present. The Secretary read a letter from the Parochial Board in reply to the request of the Society for the improvement of the bridle road between Mavis Bank and Silver Hill. The letter states that "The Board after making due enquiry did not find the circumstances of the case justified their making the improvements asked for." The Secretary was requested to reply to the Board as follows:—"We should be glad to be informed what was the 'due enquiry' made by your Board. The facts known to ourselves are as follows:—(1) No answer at all was sent by your Board to my communication. (2) At the Agricultural Society's meeting held on the 25th April, we heard it said by a member of the Parochial Board or some other person, that he understood that a deputation was appointed to enquire

into the matter, but he did not know who they were or when they were coming. (3) On Wednesday, April 29th, I received a note from Mr. Kemp, stating that he intended to come on the 30th, the next day, to inspect the road and asked for my presence or some representative of the Society. (4) At such short notice, neither I nor the Chairman, the Rev. C. H. Coles, was able to attend, but we arranged for other representatives to meet him. (5) The Chairman saw him at Gordon Town, and I met him at Mavis Bank, but the representatives who were waiting on the road in question never saw him, nor have we heard of any one who saw him visit the said road. (6) Neither of the two other members of the Board who formed the deputation turned up, and indeed, one afterwards said he had never been notified of the date of the inspection. We venture to suggest that these are hardly the signs of 'due enquiry,' and would request that either another deputation be appointed, or that the Superintendent of Roads be asked to confer with the officers of the Society and report to you on the result. We may add that we have good authority for saying that His Excellency the Governor is heartily in favour of having good riding roads to connect with the new driving road from Gordon Town to Guava Ridge Mavis Bank." The election of officers for the current year resulted as follows:—Rev. C. H. Coles, President, Rev. N. A. Baquie, Mr. W. G. Thomson, Vice-presidents; Mr. D. H. Willis, Treasurer; Charles A. Rennals, Secretary. The Managing Committee to consist of the above-named, together with Messrs. R. Sidgewick, E. A. Walker, R. S. Henry, R. Tait, Jacob Hall, James Jacobs, J. S. McDermott, Charles Davis, Thomas Jackson, J. Whitworth, Robert Simons, Isaac Henry, William Dixon, Thomas Tait, James Wil-lacy, and C. C. Ireland. It was decided that no member be retained on the Committee who does not qualify within three months. The subject of bush fires was discussed. Many of the members were of opinion that under the tenancy system they cannot help burning the bush as it would incur a risk to cut down rented land to let it lie for a year to rot. It was thought, however, that the careless use of fire, was a source of great misfortune to the district. The trees and bushes being burnt the land is left bare, and the soil is no longer retentive of the rain, so that the water supply is in every respect lessened. It was thought that the planting of trees should be encouraged. The Penny Bank is reported to be making fair progress, there being over 70 depositors within the two months since it has been opened. The President intimated that a deputation from the Clifton sub-branch approached His Excellency the Governor at Guava Ridge on Thursday, the 23rd instant, with a view of getting His Excellency's opinion about the continuation of the driving road from the Mavis Bank end to connect it with the Silver Hill end. The Governor, while not committing himself by any promise, thought it would be very advisable if funds were available. His Excellency also intimated that circumstances remaining normal, the driving road from Gordon Town will be ready for traffic as far as St. Michael's Church, Mavis Bank, within the next three months. On the motion of the Rev. C. H. Coles, a vote of thanks was passed for the use of the building for these meetings. The meeting then adjourned.—C. L. A. RENNALS, Secretary.

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St. John's.—A special meeting of this Society was held at Kitson Town, on the 22nd July, at 5 p.m. The following members were present:—Messrs. R. B. Farquharson (President), E. J. Hendriks, (Vice-president), S. A. Banton, G. A. Bell, T. G. Richards, Ed. Wilson, Wm. Wilson, J. H. Gonzales, S. Maxwell, and Miss Fuller. Among the visitors were Messrs. Charles Wright, A. Gonzales, J. T. Davis, J. D. Campbell (member), J. McPherson, etc. After the minutes were read and confirmed, the Secretary read several letters relative to the lack of proper water-supply for this district. On the motion of the Secretary, seconded by Mr. Hendriks, Dr. Edwards of Spanish Town was elected a member. The depu-

tation which was received by the Parochial Board on the 15th, when the water-supply question was discussed, presented their report. At this interview the Board promised to raise the walls of the Kitson Town tank and to erect a pump. They also promised to do a part of the clearing of the pond at Aylmers, and another which we learn will be given at Belmont; the remainder the people must do. During this discussion, the meeting urged that the Aylmers pond which we learn is being rented at 20s. per annum by the Board, should be first cleaned. The following resolution was carried unanimously:—"This meeting learning that the Parochial Board intends to do a part of the cleaning of the ponds at Aylmers and Belmont respectively, the members hereby pledge themselves to use every possible means to do the other part of the cleaning as quick as possible: for we anticipate rains in October and it would be beneficial for us if the ponds are cleaned before the rainy seasons set in. We also learn with gratitude that the much desired pump and completion of the Kitson Town tank have been promised by the Board. We respectfully ask that the work be put in operation immediately." The Chairman submitted the following question to the meeting: "In what way will you assist in cleaning a part of the ponds?" All agreed that they would work until the completion, then they could be paid for a half of what they do. On the motion of Mr. Richards, an alternate scheme was suggested, viz., That the Board could divide the ponds in two and give one half to the people and then the Board could clean the other half in the usual way.—S. A. BANTON, Secretary.

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Bog Walk.—At the instigation of certain gentlemen, residents of the district, Mr. Hirst, Agricultural Instructor for Clarendon and St. Catherine, arranged for a meeting to be held here with the idea of stimulating the interest of the people in general, and forming a Branch Society in this district, which indeed is one of the most important agricultural districts of the Island. Fixtures were made for Wednesday the 22nd July, and a most unprecedented meeting was the result. Fully 51 gentlemen, 15 ladies and about 25 children were present. Among those present were: J. H. McPhail, Esq. in the chair; J. Barclay, Esq., Secretary J. A. S., Messrs. J. Hirst, H. St. J. Clarke, E. L. Staniger, P. H. Ainsworth, J. P. McPhail, M. Constantine, N. R. Butler, H. A. Coombs, W. M. Gordon, G. R. Palmer, and others. After calling the meeting to order, the Chairman welcomed in quite a general manner, special to himself, those who were present, and after speaking briefly of the objects of the meeting, called upon Mr. Barclay, Secretary of the parent Society, to address the meeting. He, speaking at some length, gave a very wide and lucid address. He spoke of the amount of good things the Society had accomplished for the benefit of agriculture in the Island within the last twelve years of its existence. With a small beginning, and indifferently received in all quarters, the Society had grown to become far-reaching in its work. He gave a regular formula of the instructional work. Then he spoke of shows, and lastly of Branch Societies; and suggested the formation of a Branch Society here at once. This address was received with notable attention. Mr. Hirst then followed in a very interesting way, emphasizing some of Mr. Barclay's remarks and showing the importance to the district a Branch Society would be. Next followed Mr. Hemans, with an interesting address. Much of the step taken has been at the instance of this gentleman. He welcomed the efforts of the Society and its efficient officers, and very warmly expressed his intention to work hard for the up-keep of a large and healthy Branch here. After these stirring addresses, the Chairman moved that a Branch be at once formed, and Mr. G. R. Palmer, moved by P. H. Ainsworth, Esq., and seconded Mr. J. L. Martin, was elected Secretary. Moved by the Chairman, and seconded by I. Cookman, Mr. E. L. Staniger was elected Treasurer. Mr. Barclay moved the Chairman as President, which was seconded and carried with acclamation. Mr. Hemans was elected Vice-president and Mr. Kerr Assistant Secre-

tary. Thirty eight persons were enrolled members the same evening, and this new Society to be known as St. Thomas-ye-Vale Branch, qualified for affiliation. A hearty vote of thanks was accorded Messrs. Barclay and Hirst, as also the Chairman for putting through so successful a meeting:—J. R. PALMER, Secretary.

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Albert Town.—At a regular meeting of this Branch held on the 15th July, at Albert Town, there were present:—The President, Messrs. T. F. Forbes, J. E. Neita, A. B. South, R. R. Linton, J. G. Pile, R. J. Allen, Perrin, D. M. Anderson, P. A. Brown, Josiah Coke, Robert Plummer, J. Scott, C. E. Vassal, P. H. Barrett, T. Pinnock, and A. A. Palmer, Assistant Secretary. Promptly at 7.30 p. m. the President declared the meeting open as the Secretary did not put in his appearance. Mr. Palmer was called upon to read the minutes of the last meeting. Mr. Palmer responded, and the minutes were confirmed. Mr. Palmer then explained the reason why the Secretary was not present;—that he was not only absent from the meeting but was altogether away from the district for the benefit of his health, having suffered for several weeks past from a severe attack of neuralgia. The meeting was in sympathy with Mr. Easy, and expressed the hope that he will speedily be returned to health and strength. There were one or two important items arising out of the minutes for discussion. The first question submitted was the cause for not holding alternate meetings at Ulster Spring and Albert Town as formerly. Mr. Neita led off the debate, and contended that there was a rule to that effect, and asked that the Book of Rules be produced. The Assistant Secretary did not think it was possible to produce the Book in question, as the Secretary had informed him it was either lost or mislaid, sometime previous to his appointment as Secretary. Mr. Forbes was in favour of new rules, and having obtained leave, moved the following resolution—"That in view of the fact that the rules of the Society have been mislaid, that the Committee be now empowered to frame rules to replace the lost ones. The said rules to be presented at our next regular meeting for adoption." This was seconded by Mr. J. G. Pile, and unanimously carried. Select Committee.—The following gentlemen were then appointed:—The President, Messrs. Palmer, Allen, Neita, South, Pile, with Mr. Forbes as Chairman. This was unanimously carried. The date and place for the next meeting will be fixed by the Chairman. *Re Penny Bank matter*, this was allowed to remain over for the next meeting. Mr. Scott asked in respect to the financial position of the Society. He was answered by the Treasurer. Mr. Pile did not think that the Society has been of use to its members for over a year. Mr. Perrin thought to establish what we may call an experimental plot would be a good thing for the Society. Mr. Forbes while not against the experimental plot, did not think it was workable just now, at any rate, but thought that every member could have one of his own. He was more in favour of rearing goats, fowls, etc. That the Angora ram suggested by Mr. South at a previous meeting was of great importance. Mr. Perrin thought of lectures in which members could exchange views in respect to cultivation, etc., after which the Chairman responded in a very suitable manner. The meeting then terminated.—A. A. PALMER, Acting Secretary.

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St. George's.—The monthly meeting of this Branch was held in the Court House, Buff Bay, on July 11th, 1908. There was a good turn out of members. Mr. T. C. Giddes, President, being in the chair. The minutes of the last meeting were read and confirmed. The President moved the following resolution: Resolved—"At this the first meeting of the St. George's Branch of the Jamaica Agricultural Society since the death of Capt. L. D. Baker, this Society expresses its deep and sincere regret, and places on record the great loss which this Island has sustained in general, and this Society in particular, and wishes to convey to his

bereaved family an expression of sympathy with them in their irreparable loss, and that a copy of this resolution be forwarded to them through the Secretary." Mr. Steadman seconded and it was carried unanimously. Rev. W. J. Thompson then brought up the [subject of Merrick's Charity. He said that as it was said to have originated at the Board of Agriculture, and that as it affects this district, he thought it proper that some resolution of this kind should be adopted. He then moved the following:—"Whereas it has been publicly stated that it is the intention of the Government to establish a scheme, whereby the sons of the peasantry in Jamaica are to be trained as overseers at Hope, and that it is proposed to use the Merrick's Charity for that purpose; and whereas the Branch of the Jamaica Agricultural Society would hail in, and support an action of the Government to further the interests of the peasantry of Jamaica especially in the line of agriculture. Be it resolved, that the St. George's Branch of the Jamaica Agricultural Society protest strongly against the Government using all or any portion of the Charity of the deceased Charles Merrick for any establishment so inclusive, and in any other locality than the one the testator had in mind, as that would be a direct contravention of the testator's bequest. That this Branch would respectfully ask the timely consideration and co-operation of the parent Society in this matter; and that a copy of this resolution be sent to His Excellency the Governor." Mr. Steadman seconded and it was carried unanimously. Three new members were elected and the meeting was then adjourned. The weather is still very dry here. The good done by the rains of early June is now wiped out, and everything is assuming a very serious aspect. Cultivations are being thrown back everywhere. Pastures are barren and dry. The prices of bananas have fallen; the crop has not yet come in, being backward from last year's drought. Cocoa has also fallen to below its normal level. The cultivator is again finding hard times.—W. JACKSON, Secretary.

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Guy's Hill.—The ordinary monthly meeting of this Branch was held on the 16th July, when the following members were present:—Messrs. A. N. Holness, one of the Vice-presidents, who presided at the meeting, S. E. Allen, C. Whittaker, C. Irvine, S. Grant, Urq. Anderson, J. J. Hunter, R. Forbes, John Lawrence, William Brodber, Stephen Anderson, W. J. Brown, Jas. Grant (jr.), a visitor and the Secretary. The report of the hat committee showed that the class for teaching jippi-jappa making had started on Monday, 13th, under the tuition of Miss Catherine Creary of St. Faith's, Glengoffe, and that the progress made for the week was satisfactory. The class consists of 12 pupils. The committee regretted that no financial help could be obtained from the parent Society. The practicability of a model garden in connection with the Society was discussed. All present agreed that it is a desirable thing. The question as to the plot of land for the purpose was left over for the next meeting. Mr. Holness kindly gave his experience of the working of such a garden. It was moved and seconded, that the Secretary be instructed to communicate with the Secretary of the parent Society, and beg that an Instructor be asked to visit this Branch as early as possible, and it was suggested that the Instructor be asked to make the "cultivation of coconuts" and the curing, a special feature of his instruction. It was moved and seconded, that the prospect of an agricultural show in connection with the Society be entertained and discussed from time to time. The agenda for the next meeting is:—(1) Report on hat committee; (2) Discussion on model garden; (3) Discussion on the possibility of a Loan Bank or something similar; (4) Discussion on the proposal of a show.—W. E. WATSON, Secretary.

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Bull Head.—This Branch met at Mt. Carmel, on Wednesday, 8th July, when 30 members were present. The Secretary, Mr. E. A. Tomlinson,

said he was pleased to announce that the Society had grown to 51 members. The local committees were working well. The following subjects were discussed—"The Future of the Bull Head District," "The Cultivation of Bananas in the Bull Head District." Mr. William Wright in opening the discussion on the first subject, said that the past had its hindrances, and disadvantages—wrong methods, bad roads, lack of Instructors, etc. The present with all its improvements on the past, still has its shortcomings; yet, having now among other good things and valuable privileges, the Agricultural Society, we are looking expectantly to the possibilities of the future. Ours is an agricultural district, the soil is fertile and highly suitable for the cultivation of staple products, therefore we should study the best methods and apply them diligently. Other members expressed their views, and the Chairman in closing the discussion on this subject, said that he was pleased to note the optimism of the speakers. It is often the tendency among many Jamaicans to believe that the days gone by are the best, and to see nothing but gloominess in the future. As a people we are making real progress. The Agricultural Society was the organisation to bring us together in aim, and to teach us to help ourselves. It had come to stay, and would stay if we supported it heartily. The subject of "The Cultivation of Bananas" was dealt with. Mr. G. N. Simpson read an excellent paper showing the importance of this crop, and very practically setting out the best methods and principles on which we should proceed. Too little attention was being paid to the preparing of the land, and setting out the plants. We should get away from the fire-stick method of burning up the plant food. Many other important points were brought out in regard to this subject. To secure the best results it was necessary to give special attention to the choice of suckers, time for planting, distance, forking, weeding, suckering, trenching, manuring, gathering and transporting of fruits. A lively and very profitable discussion followed, and the Chairman in closing, called attention of members to the model plot, where already they would see the results of superior methods. A few minor matters were dealt with. At the next meeting the following will be discussed—"What can be done to improve the future of the Bull Head district," and "Stock-rearing in the Bull Head district." The Secretary also intimated that at the next meeting the Society would consider the possibilities of starting a class for the jippi-jappa hat industry. The meeting adjourned till August 12.

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Lamb's River.—The quarterly meeting of this Branch was held in the schoolroom, Mt. Hermon, on Friday, 10th July. The meeting was presided over by Mr. H. D. D. Mennell, Agricultural Travelling Instructor. Members present: Messrs. T. B. Lawrence, C. W. Whittingham, J. E. Lawrence, Edmund Graham, B. T. Johnson, R. M. Stevens, Hyman Williams, James Scarlett, George Warburton, L. A. Whittingham, and U. L. Brown. The acting President expressed his pleasure in being present to preside over the meeting, in the absence of the President and Vice-president from the Island, and hoped that everything will work well until they return. Inquiry was made *re* the Society's fowls. Mr. Graham reported that the Indian game rooster is sick, suffering from a rising on one of its legs. The hen has four chickens, and these are growing well. Mr. Whittingham reported that the Plymouth rock hens, under his keep and care, are in good condition. They laid 22 eggs. He sold all, but the enterprise was considered non-payable. The acting President read two letters from the Secretary of the parent Society. One dealing with the damage done by rats in the Island, and urging the necessity for getting rid of these pests. The other was an inquiry made *re* the procuring of arrowroot tubers in the district. This will be dealt with at next meeting of the Society. The Treasurer's account to date was presented, and it showed money balance to the credit of the Society to £2 5s. 10d. It was decided that 7s. 6d. be spent from

the funds of the Society, in the purchase of vegetable seeds for the coming season, as heretofore. The death of Mrs. C. N. Barrett, wife of a former Secretary of the Society was mentioned; and it was moved by Mr. C. W. Whittingham, seconded by Mr. T. B. Lawrence, that a letter of condolence be written to Mr. Barrett from the Society. This was carried unanimously. Mr. U. L. Brown proposed, and Mr. C. W. Whittingham seconded, Mr. George B. Fennell, Lamb's River P. O., as a member of the Society for 1908. He was duly elected. Subscriptions received from the following members for this year: Messrs. R. McFarlane, Jas. Scarlett, and George B. Fennell, each 1s. After this the meeting was adjourned until Friday, 9th October.—U. L. Brown, Secretary.

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Bath.—The quarterly meeting of this Branch was held at the Court House, Bath, on Thursday, the 16th July, at 1 o'clock p.m. There were present: Robert Jacobs, Esq., in the chair, J. S. Edwards, Esq., Vice-chairman, Rev. C. E. Hardwick, Treasurer, Messrs. Gregory, Edwards, Davis, Francis, Thomas Rozario, Altom Burke, Arthur Burke, Dick, Matherson, Murray, Fulcott, Mrs. Codrington, J. P. Duffey and J. W. King, the Secretaries. The minutes of the last meeting were read, and after some discussion, they were amended by striking out the words "for good" in the resolution to Mr. Parnther and confirmed:—(1) The meeting welcomed the Rev. C. G. Hardwick who had so readily joined the Society, and had become its Treasurer. Mr. Hardwick said he would always be glad to do anything he could to further the interest of the Society. (2) It was decided to discontinue the model ground as it could no longer pay its way. The Treasurer was asked to write the Directors of the Bath Corporation, asking them to relieve the Society of the tenancy on the 31st December, 1908, the Society agreeing to deliver the land at that date free of bush. (3) Letters from the Rev. D. D. Parnther, the late Secretary and Treasurer, with reference to his departure from the parish, as well as on the illegality of the meeting of the 9th April, were read and tabled. (4) Mr. Parnther's offer to purchase the mineograph was not entertained, and the Secretary was directed to return it as soon as he could. (5) Letter from Mr. Barclay informing the Society that Mr. Briscoe, the travelling Instructor, would now be residing at Castleton, was read; the meeting was of opinion that they were satisfied with the work of Mr. Briscoe, but that now he will be residing so far and perhaps be only able to pay a few visits to the districts, the parent Society should do something in the way of a grant to pay a local Instructor, whose work could be supervised by Mr. Briscoe on his tours. (6) The meeting was glad to know that the Government was seeking a virus for rats and was doing all they could to help in getting rid of what is the greatest loss (outside of praedial thieves) to the cultivations. (7) The Secretary was asked to order 200 copies of the Rules of the Society to be re-printed by the *Jamaica Times Printery*. (8) The Society noted with satisfaction that twenty pounds were paid in through the President, which was sent from the parent Society to the Secretary. The balance of £4 15s. 2½d. due by Mr. Parnther, was decided to be sent to Mr. Hardwick, the Treasurer, along with the £20 to be lodged in the Government Savings Bank at Morant Bay as per rule VI. (9) The meeting decided that the Secretary should write and see if he could get a show ground for the forthcoming show, from the Rhine or Potosi, and to report on the matter at the next meeting. It was not decided whether the show should be held in November or early next year, the time was left to the Board of Management to be decided on. (10) It was learnt with indignation that the Government had decided to make Port Morant the quarantine ground for the parish of Portland. The Secretary was directed to write to the Hon. Colonial Secretary, and the Hon. J. R. Watson, M.L.C., St. Thomas, pointing out the injustice about to be done the parish of St. Thomas.—J. P. DUFFEY, Secretary.

Lucky Hill.—A meeting of this Branch came off on Wednesday, July 15, 1908. There were present: Messrs. C. Husband, Vice-president, who took the chair in the absence of the President, C. Pottinger, G. A. Pottinger, G. B. Pottinger, E. Bloomfield, H. Scott, I. Vincent, Chas. McIntosh, A. Martin, E. Taylor, W. B. Cummings, E. M. Ford, and Mr. E. Evelyn as visitor. The minutes of the last meeting were read and confirmed. Correspondence from Leo. Galitzki, importer of Panama hats, Chicago, *re* jippi-jappa hat, was read for the benefit of those who were absent at the last meeting. A letter was also read from Mr. E. Evelyn at Gayle, about the establishing of a Branch Society there, to be managed by the Lucky Hill Branch. It was discussed for a little time and left for further consideration, as the same was found too comprehensive. The jippi-jappa hat industry was then dealt with. Mr. W. B. Cummings benefitted the meeting greatly by dealing exhaustively with the subject, as to the meaning of "the hat-making class"; and finally, it was unanimously agreed by the members present that:—(1) Such a class is necessary; (2) that it is necessary to have a guarantee fund; and (3) that each member present make it a point of duty to try and get as many pupils as possible for the class, and report the same at the next meeting. Date of next meeting, August 12.—E. M. Ford, Secretary.

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Comfort Hall.—On Monday, 20th July, a most enthusiastic agricultural meeting was held at this place. The gathering was large and representative, and the presence of some of the fairer sex added refinement to the proceedings. At the hour fixed the President called the meeting to session. He then expressed his great pleasure at seeing such a large number in attendance, and welcomed those who had come to the meeting for the first time. The Secretary was next asked to read the minutes of the last meeting. After the confirmation of the minutes, the lecturer, J. T. Palache, Esq., came forward amidst the applause of all present, and introduced himself. He dealt with the neglected state of the roads in North-west Manchester, and pledged himself to do all he can to bring about a change in that direction. Some questions were put to him, respecting a contemplated road through Breeze Hole District, where over 100 taxpayers reside, and if one were to be sick no sum of money could ever induce a doctor to risk his life to go. He gave the hope that if the men will unite and make fair representation, the matter will have attention. The lecturer's next speech was on coffee-curing. He handled the subject freely and fully. Many who had given up hope for coffee as the peasant's "main stay," were greatly encouraged by the facts brought out by the lecturer. He closed by saying—"Coffee as an old friend is still true, and will continue true if the growers will be faithful to help dame nature in the performance of her duty." A very lengthy discussion followed, at the close of which Mr. A. D. Dwyer moved, and Mr. Lalor seconded, a vote of thanks to the lecturer, which was accordingly given and replied to in encouraging words. Mr. Palache at this stage left for Balaclava, followed by rain as usual. The Prædial Larceny Bill was discussed, and great satisfaction was expressed at the introduction of such a Bill. In appreciation of his services of His Majesty's representative in securing the people's rights, the National Anthem was sung, and the meeting declared adjourned till 21st September.

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Maidstone.—The regular monthly meeting of this Branch was held at Nazareth, on Tuesday the 23rd June. The agricultural Instructor, Mr. J. T. Palache, was present, also a splendid turn out of members. In the absence of the President, the Vice-president, Mr. Peter Watson, took the chair. The minutes of the previous meeting were read and confirmed. The first matter dealt with was cotton growing which, along with Agricultural Loan Bank, this Association is now interesting itself

in. A letter giving his advice on cotton growing, was read from the Secretary of the parent Society, Mr. John Barclay. He thinks this locality is too elevated to grow Sea Island Cotton commercially, but said there would be no harm in trying it experimentally. He also suggested experiment with Caravonica cotton, which he stated was more robust and would grow well in the mountains. Mr. Palache on the other hand is of opinion that the Sea Island Cotton would grow in these mountains. He showed a sample (which was just excellent) grown in Mr. J. B. Thompson's garden at Medina, which is not very much elevated. Mr. Palache while speaking on this matter, said, that in the shape of growing things, Jamaica was a most wonderful place, for we can grow almost every plant here; and we really don't know what we cannot grow until we try it. He further stated that even an experiment that failed taught quite as much as one that succeeded. [It is not merely whether a plant will grow and bear that is the question—the commercial side of the venture must be considered, that is, will it pay to grow? That Sea Island Cotton will grow and bear at 3,000 feet needs no proof, but it is a shy bearer, so high. Caravonica cotton at that elevation bears well and lasts long. Whether either is worth growing in the district of Nazareth will only be proved by careful experiment. We have had both varieties under our observation, and at nearly the same elevation (2,800 feet) for a number of years.—Ed.] Mr. Palache next spoke on Agricultural Loan Banks. In opening his discourse, he said that now-a-days he only spoke on Loan Banks when asked to do so, as it was in this case, and gave his reason for his present attitude. For many years he said he was endeavouring to show Agricultural Societies the good that could be accomplished by these banks, but he must own that he had not been successful in this mission, as he had only succeeded in organising one Loan Bank, and that is the one at Christiana. Still, he was glad to say that that Loan Bank has proved a great success, as the only difficulty it was having was to have borrowers. In continuing his lecture, he gave a brief history of the origin of Loan Banks, and showed how they had helped other people—people in similar, and in some cases, in worse position than ourselves. Fidelity and co-operation were all that were needed for the success of an Agricultural Loan Bank. These, he said were the strongest rules to success. The lecturer in concluding a highly valuable address advised the Association not to run hurriedly into this matter; but to weigh and to think it over, and then if twenty members can be found between now and his next visit, he would start the work of organising. All present were favourably impressed and promised to give the matter their best consideration. Mr. W. T. Holness, a member of the Association, and one of the leading planters of the district, was previously asked to do some work at the meeting. He did not say much, save a few encouraging words to his fellow-planters, and then marched off quietly and showed from a basket *five of the finest sweet potatoes* that could be seen in any part of Jamaica; and what was most interesting, was to know that the cuttings which produced these potatoes were planted in the second week in February. The history of this potato was also very interesting. Mr. Holness told the meeting that the original potato grew from a seedling potato, a very tiny thing, which he discovered some time ago in a piece of land, which many many years ago was owned by an old man named Harry. This little seedling he carefully watched and tended until the slips were big enough to be transplanted. This he did in the month of February in a well-dug soil, and the result was the tubers that have already been described. He also showed lovely samples of Irish potatoes which took only nine weeks to mature. Mr. Palache complimented Mr. Holness very highly, and remarked that what he (Mr. Holness) had done was among the finest bit of object lessons that he had seen in connection with many of these Associations, and this was one of the best agricultural meetings he had attended. After the usual vote of thanks was accorded, the meeting terminated.—J. A. MAXWELL, Secretary.

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No. 9.

BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the new office of the Society, at No 11 North Parade, on Thursday, 20th August, 1908. Present :—Hon. H. H. Cousins (Deputy Chairman), Messrs. D. Campbell, E. W. Muirhead, A. C. L. Martin, and the Secretary, John Barclay.

His Excellency the Governor, Dr. Pringle, and Mr. Bertram were engaged at a meeting of the Privy Council and could not be present. Five members of the Board were also off the Island.

In the absence of the President, and Vice-presidents, Mr. Cousins, Director of Agriculture, as Deputy Chairman, presided.

As there was not a quorum, it was decided to go on with the business, leave over the more important matters, and ask that the decisions arrived at be confirmed at the next meeting of the Board.

Mr. A. W. Douet wrote to say that as he was staying in St. Ann till September, he was therefore not able to attend the Board meeting.

The minutes of the June meeting (there having been no meeting in July) being printed in the JOURNAL, were taken as read and confirmed.

Deputy Chairman. The Secretary read letter from Mr. Cousins expressing gratification that His Excellency had nominated him to be Deputy Chairman of the Society in succession to his predecessor, Mr. Fawcett, and that he would try in every way to promote the success of the Society and to secure harmonious co-relation of its operations with those of his department.

New Office. Letter from C. S. O., dated July 23rd, was submitted, stating that His Excellency approved of the work at the Parade Gardens premises, as recommended by Mr. Cousins and Mr. Barclay, being undertaken to fit them up for occupation by the Jamaica Agricultural Society, at a net estimated cost of £50 7s., after allowing for a refund of £5 15s., half the cost of restoration of boundary walls.

Funds Clarendon Agricultural Association. The Secretary stated that the Bank required a bond before they could pay over these funds. Mr. J. C. Elliot, the last President of the Association, agreed that the funds could be paid over but would not sign any bond, he (the Secretary) had therefore written the Colonial

Bank, asking if they would accept the guarantee of the Society in lieu of Mr. Elliott, the last President, and Mr. Moxsy, the last Secretary; the Manager had written stating that he would accept the Society's guarantee. It was, therefore, resolved to give the Colonial Bank the guarantee required to be signed by the Deputy Chairman and the Secretary on behalf of the Society.

Cotton Conference. The Secretary reported as follows :—

Mr. Conrad Watson was asked to attend the Cotton Conference at Manchester to represent this Island, and I also asked Mr. Simmonds, Mr. Williams, Mr. deMercado, and Mr. Cradwick, who were all in England. As Mr. Watson had to plant out his cotton in August, he was not at first able to make arrangements to get away, but on receiving intimation that Earl Dudley had made arrangements for him to attend at the request of Sir Daniel Morris, Mr. Watson left for England by the *Port Kingston* on 16th June. Mr. Simmonds has written that he is not sure whether he could go to Manchester for six days, but would try to do so. Mr. Williams advised me that he would attend. I have not heard yet from Mr. deMercado or Mr. Cradwick.

His Excellency, as President, had therefore appointed Mr. Watson as a delegate.

Rubber Exhibition. In connection with the rubber exhibition, the Secretary stated that he had asked Mr. Cradwick, Mr. Robert Thomson, Mr. Simmonds, Mr. deMercado and Mr. Williams, to attend the rubber exhibition, and probably Mr. Simmonds, Mr. Cradwick and Mr. Thomson would be there on our behalf.

The Secretary said he had failed to get a good exhibit of *Castilloa* rubber, but had got an exhibit of Milkwith rubber. Mr. Campbell mentioned that his son had tapped some of his *Castilloa* trees which were seven years old, and that one light tapping had given an ounce a tree. He would send in this rubber if it would be of any use. The Secretary said he would be glad to get it.

The Chairman stated that he was arranging to send some parts of trunks of *Castilloa* rubber trees marked with their ages, so as to show the rate of growth.

Judging Prize Holdings Competition. The Secretary submitted the following memorandum :—

It is necessary now to make definite arrangements for the judging in the Prize Holdings Competition being held this year in St. James, St. Elizabeth, Clarendon and St. Andrew. Before time Mr. Cradwick has always judged along with the Instructor for the district, and in Mr. Cradwick's own district Mr. Arnett has judged with him.

Owing to some re-arrangement as regards the Board of Agriculture Instructors, I am advised that it is not likely that Mr. Cradwick will be available for judging in this competition outside of his own district.

It is suggested (1) That the Instructor judge his own district alone. (2) Or that he exchange districts with a neighbouring Instructor in judging, i.e., there will be one judge only. (3) Or that the Instructor for the neighbouring district assist him in judging.

I have pointed out that neither of these arrangements is practicable ;

and even if they were practicable they would not be desirable for the following reasons :—

(1) It would neither be satisfactory to the Instructor nor to the competitors, nor fair to the competition for the Instructor to judge in his own district for reasons that are obvious I think.

(2) The neighbouring Instructor would not be familiar with the districts, and would waste a great deal of time searching out the holdings.

(3) If the neighbouring Instructor did assist, this would mean that an Instructor would be away from his district just when he was working the holdings up for the judging in the competition. Mr. Cradwick was purposely assigned for small parishes so that he could also act as a general superintendent of the Instructors.

The arguments in favour of Mr. Cradwick doing the judging are as follows :—

(1) He fixed the original scale to points.

(2) He knows all the parishes and the people in them.

(3) The people know him, appreciate him, and have faith in his absolute fairness and impartiality.

(4) He is the senior Instructor and all others will abide by his judgments. I know that some of the other Instructors will spend hours arguing on points, each being positive he is correct.

I am sure that it would be a setback to this interesting and useful competition if the judging is not thoroughly and satisfactorily done.

The Chairman said that from a departmental point of view, it was a great waste of Mr. Cradwick's time for him to go about the Island judging the Prize Holdings. He thought that an Instructor was trustworthy enough to judge the holdings in his own parish, and where there was any special difficulty a local planter could be called in to decide.

The members of the Board thought, however, that this would be a wrong principle. After further discussion, Mr. Muirhead suggested that they should get one or two independent men to do the judging of the competitions in the whole Island along with the local Instructors, if they had the money to employ them.

The Chairman stated that he had saved about £700 this year in the administration of the Botanical Department. Therefore the Government might be willing to give extra money for a special judge or judges for this competition.

The Secretary was asked how much it would cost ; he said it would require careful calculation, but the minimum would be £50. He was asked to communicate with the different branch societies as to whether the judging by the Instructor for the parish and local gentlemen, would be satisfactory. The matter of employing a special judge was left over till the next meeting of the Board—meantime the matter could be referred to the Instructors' Committee.

Import Duty on The Secretary presented the following minute :—

Livestock. The Society recommended the withdrawal of the duty on livestock intended for breeding purposes, but in the law, only horses, cattle, pigs and sheep are named—poultry were always free. I imported a trio of Belgian hares for Mr. Palache this month, and was charged duty at the rate of 16s on the first cost, this duty being 9s. 2d., but included in this is duty of 1s. 2d. on the coop containing the hares.

Rabbits are most useful animals in the country. Weight for weight they make more manure than any other stock and are largely kept for this purpose by small settlers. Their flesh is also being more and more used, and it is an agreeable change to poultry for the table. Young rabbits are also being more used in hotels and lodging houses on the table. The importation of Belgian hares occasionally, raises the standard of the rabbits, and these animals might be included in the law.

The Secretary was instructed to write to the Government and point out that this was an omission, and ask that Belgian hares and goats should be brought into the Island free of duty, like poultry and other economic stock.

Rat Virus. Letter was read from the Acting Colonial Secretary, No. 6812-7417, 3rd July '08, stating that at the request of the Society, rat virus would be admitted into the Island free of duty.

The Secretary also submitted a letter from Messrs. Parke, Davis & Co., of Detroit, Michigan, stating that they would send samples of Azoa to be experimented with.

Mr. Cousins stated that Mr. Ashby, the bacteriologist at the Government Laboratory, had examined and tested both the Azoa and the Liverpool rat virus. The latter was found to be entirely inert in every sample tested, and the Azoa did not appear to act as a virus if taken in food but only when inoculated, so that it seemed useless to lay it about for rats to take.

Bulls and Stallions. The Secretary submitted report as follows :—

I beg to report that the Live Stock Committee have authorized me to remove the roan shorthorn bull "Henbury Favourite" from Weston Favell, Trelawny, to Tobolski, Brown's Town, c/o R. L. Young, the bull having always been reported to be sickly and not serving while in Trelawny, so that he would be in a better climate and at a better centre where he could be seen by intending purchasers, and where a score of fine calves by him could be also seen.

The bull was safely and promptly removed. I saw him a few days after his arrival on the 18th July, and he did not look very brisk, but was otherwise in fair physical condition. I saw the bull again on the 30th July, and found him apparently all right again, and as active in serving as could be desired. At present he is earning fees at Brown's Town, and is being kept on the old arrangement of half fees for the studmaster, and half for the Society.

The livestock committee also authorized me to remove the red bull from St. James to Kingston, so that he may be examined by the veterinary surgeon and got into condition for sale. The Director of Agriculture says he can take him at Hope Gardens where there is plenty of grass. We would have to pay the cost of other keep and attendance.

I have only one offer at present for this bull of £12, which I cannot say anything about until I see the bull and no offer for the other bull, but as these bulls could not be imported here for less than £35 to £40, I think we should wait until the red bull has come to St. Andrew, has been examined, and been got into condition before deciding to accept any offer.

It was decided that both bulls should be brought into Kingston and got into condition and be advertised for sale.

The Secretary said that he had an offer for the stallion "Sir Gerald" from an Agricultural Company in Colombia which had been

referred to the Livestock Committee. There was equal voting in favour of and against selling, and His Excellency gave his casting vote against. The stallion would therefore not be sold.

White Scale. The Secretary submitted a letter from Dr. Tillman, with report on the sample of spraying fluid Vi No. 2 sent him for trial. (This is published as an article in the JOURNAL.)

The following letters from C. S. O. were submitted :—

(a) **Inspection of Di-rect Line Steamers.** Report from the Harbour Master stating that he had inspected the fruit accommodation in the Direct Line Steamers, S. S. *Port Kingston* on July 16, S. S. *Port Henderson* on July 30, and S. S. *Port Antonio* on August 13, and had found that the terms of the contract had been complied with.

(b) **Drought in St. Elizabeth.** 27th June, No. 6564-7516, forwarding the following extract from the report of the Assistant Collector of Taxes in St. Elizabeth, dated 22nd June, which stated that “the settlers in the drought-stricken districts in order to make a fresh start, would require outside assistance in the shape of seeds and cuttings for plants, as they were not in a position to help themselves.”

The Secretary said that this report was dated 22nd June, but the Board at the meeting that month had already made a grant to enable Mr. Palache to distribute seed corn, beans, sweet potato slips and cassava, but it would have been useless to distribute these at the time, owing to there having been no rain. Now he had a report from Mr. Palache that showers had fallen; the Instructor wrote as follows :—

I returned yesterday afternoon from a tour in the drought district of St. Elizabeth, and I am glad to be able to inform you that on Friday night a splendid rain fell almost over the entire drought area. It is said to be a most general rainfall since the rain of June 3 to 5. We had two meetings at Myersville and Southfield. A great deal of land is being prepared for planting, and arrangements were made at Southfield for sending up during this week for beans, corn and potato slips. I expect the Bull Savannah messengers to-morrow and the spirit of hopefulness is quite different this year to what it was last year this time. I found the sweet cassava at Yardley Chase has borne well. I took up two roots, quite a good return and good quality. The bitter is bearing well too and I shall be able to keep with some cuttings for planting from here. I am starting work to clean up and make the cotton plot ready for planting in September. I have engaged the seed from Mr. Farquharson and if the rains only continue, will see that the other portion of the experiment is proceeded with. Mr. Simeon Parchment is now my best ally in impressing on the people my methods of cultivation. And if only there are good fall seasons, there will be plenty of food supplies put in at this time. It has been raining here since 7 o'clock. It is black all round; any amount of thunder which makes me think the rains are general.

The Secretary said he had been keeping in touch with Mr. Palache in this matter all along, and would continue to do so.

(c) **Contagious Diseases** 26th June, No. 6511-6702 :—

Animals Law. (1) I am directed by the Governor to acknowledge the receipt of your letter dated the 4th instant, relative to the proposed

Contagious Disease Animals Law, and asking whether anything is proposed to be done in the matter.

(2) In reply I am to inform you that this matter was discussed by Sir J. A. Swettenham with the Privy Council, when it was considered that the arguments in support of the necessity for this Law received from the Jamaica Agricultural Society in reply to the letters from this office of 19th May 1906, and of the 28th of June 1906, were not sufficient to justify the bill being proceeded with, and that the matter was brought to the notice of the present Governor, when it was again considered by His Excellency in Privy Council, and the result as far as regards the appointment of a Government Veterinary Surgeon, was communicated to you in the letter from this office, dated 30th January, 1908.

(3) I am to say, however, that His Excellency will further consider the question of introducing legislation for the repression of contagious diseases among animals before next year's session of the Council.

(d) **License on Butch-** 17th July, No. 8736-7543, forwarding the following letter:—

May it please your Excellency—

Can I venture to suggest to you the usefulness of a bill for the purchasing of stock and sale of butchers' meat?

There are a number of men strolling about the country claiming to be butchers, and are on the alert to purchase all stolen stock.

I would suggest the introduction of a bill requiring every butcher to obtain a yearly license for ten or fifteen shillings as Your Excellency deems fit; he must also keep a book; form enclose, which must be presented on demand to any police.

Trusting that it will meet Your Excellency's approbation, I assure you there is no one more your respectful and humble servant than

Bull Bay.

(Signed) N. GILES.

The Secretary explained that this matter was fully discussed by the Board of Management in 1906, and the discussions were fully reported in the Press, and a full report was contained in the Society's JOURNAL for August 1906, but the then Governor, Sir Alexander Swettenham, did not think that there was any necessity to impose such a license, and the matter then dropped.

It was decided to send the Colonial Secretary a copy of the previous report on the subject.

(e) **Central Experiment Station.** Dated 23rd June, No. 6305-7228, forwarding a report of the recommendations at the last West Indian Agricultural Conference with reference to General Experiment Stations being formed in the West Indies. No recommendations were made with regard to this.

(f) **Liverpool Products Exhibition.** Forwarding letters from the Liverpool Products Exhibition, Nos. 7699 of 4th June and 9861 of 27th July, asking if the Colony would be represented at that exhibition to be held from November 12th to 26th inclusive.

The Secretary was instructed to reply that the Society could not take part in the Exhibition.

(g) **Agricultural Motors.** Forwarding letters 9075 of 10th July from the Ivel Agricultural Motors Co., Ltd., with illustrated catalogue, asking for information regarding the names of estate owners in Jamaica likely to use motor cultivators.

The Secretary was instructed to give what information he could.

(h) **Re Orange Trade** Forwarding a copy of a report by the British in Spain. Consul at Barcelona, asked for by Sir Daniel Morris, and sent on by him with the request that suitable extracts might be published in the JOURNAL. The Secretary stated that he had done this in the August JOURNAL.

The Secretary submitted the following letters from the Secretary of the W. I. Committee :—

(1) Asking for a list of planters, penkeepers, etc., who would be willing to take pupils, with full particulars regarding conditions prevailing here.

The Secretary stated that the Institute of Jamaica formerly published such a list, but perhaps it was not kept up to date, but he would ask the Secretary of the Institute and see what could be done in the matter.

(2) **Re Colonial Products Exhibition** to be held on November 26th and 27th, asking whether the Exhibition Committee would arrange for exhibits to be sent.

The Secretary was instructed to reply expressing regret that the Society could not arrange to take part in this Exhibition.

Plague of Flies on Cattle. Two letters were submitted *re* plague of flies that attacked cattle in St Elizabeth, and caused considerable loss.

The Secretary stated he had made recommendations of applications of kerosine emulsion and other stock preparations obnoxious to flies. It was necessary to have something sticky. He noticed various proprietary preparations advertised for the protection of live-stock from flies and other pests, and he had written for particulars of and quotations for all those he had seen, which he now placed before the Board. As he had a small allocation for experiments he asked if he could spend a small amount in getting samples of these for trial in case he could find something that could be of use. This was sanctioned.

Rat Traps. The Secretary also stated that he had seen in some current papers, advertisements of new patent rat-traps, and he asked to be allowed to get samples of these, and if they were effective he could get them introduced to the trade. This was also sanctioned.

Special General Meeting. It was resolved that the Special General Meeting for the revision of the Rules should be held after the Board meeting, on 17th September, at 12.30 p.m.

The following applications for affiliation from local Agricultural Societies were submitted :—

(a) Cedar Valley (St. Catherine) ; (b) St. Thomas in the Vale (Bog Walk) ; (c) Springfield (St. Elizabeth) ; (d) Above Rocks (St. Catherine).

These having conformed to the rules and regulations were duly affiliated.

Auditor's Report. The Secretary submitted a memo from the Auditor asking authority for the purchase of ice at the rate of 1/- a week, and of coal at the rate of 6d. a week.

The Secretary stated that during the drought, as the water was bad, it was boiled before using, and it cost 6d. a week for coal. These charges were sanctioned.

Secretary's Reports. The Secretary submitted the report on his visits to Mr. Arnett's instructural district, and to St. Ann and St. Mary's shows. This was directed to be published.

Instructors' Reports and Itineraries. The Secretary also submitted the Instructors' Reports and Itineraries for June and July, which he had checked as usual. There was nothing particular to report, except the general continuance of dry weather up to the end of July.

Leave of Absence. Letter from Mr. Fursdon, asking for leave of absence from his duties as a member of the Board for three months, was submitted, and leave granted.

The following members were admitted :—Eric C. Anderson, Hayes ; E. W. Monaghan, Black River ; C. M. Bandford, Dry Harbour ; T. M. dePass, Ewarton ; A. O. Soutar, Stony Hill ; Alec. McNeilly, Grenada.

The meeting adjourned until Thursday, September 17th, at 11.40 a.m.

SEEDLING CANES.

To those who take interest in the general advancement of science, in the different departments of the arts and handicrafts of the world, it must be apparent, to the most casual observer, that the development of the practical is sadly handicapped by the prejudices of trade that does not understand the opportunities opened to it by the scientific discoveries in the different professions.

It is maintained generally that the planter is an almost impossible subject where he has fixed ideas and customs, and yet there is reason to believe that this is not altogether true when one sees so many who are open to reason and conviction, when that which may be placed before them is worthy of their consideration. The world advances, and with the general advancement of the other professions the agricultural must seek to take its place, if a planter is not to find himself ousted by those who may drift into his field with more practical and certainly less prejudicial ideas than those with which he is handicapped.

In all sections of life, we find that the keenness of competition has induced research in different directions. In the agricultural, for plants which will under the same conditions give better results than those which are commonly grown. This particular feature by research had been crowned with varied degrees of success in dif-

ferent varieties of plants. We find the florist continually advertising some flower which has excelled all others of its kind, and has been produced through the skill of the grower combined with that knowledge of the flower which the botanist has placed at his disposal by his scientific research. The same is true of the orange growers of California and Florida. This same is true also of the apple and peach growers. And this is equally true of the sugar cane, though it has not received that amount of attention and time given to the other branches, still it is hoped, that now that the days of luxury in the sugar industry are past, that all will aid and succour any attempts to better the condition of things, by improving the stock upon which we work.

To Messrs. Harrison and Bovell of Barbados is due the credit of having exploded the idea that the seeds of the cane produced in the arrow are infertile. Thousands of tiny canes are produced each year, and thoroughly tested in the hope that one may be found to possess qualities which will surpass the cane generally grown on estates, and so be a direct benefit to the planter.

Before going further, it may be well to state briefly the method followed in producing a seedling cane up to the stage when ready for distribution to estates. This is the system followed at Hope Gardens.

1. The parent or seed producer is carefully selected and seed gathered from the arrow when ripe.
2. About 30,000 seeds in number are planted in boxes of sand and allowed to grow until about 4 inches high.
3. Of these, the more vigorous are selected, and removed to bamboo pots which selection reduces the number to about 20 *o o*.
4. After they have grown in these pots to a height of 2 feet, the best are selected, and about 2,000 planted in the field.
5. Of these 2,000, about 50 of the best after they have matured into full-grown canes are selected, and planted in rows of 20 stools each.
6. These 20 stools are cut when the canes are ripe, carefully weighed and ground, and samples of the juice taken for analysis. The sucrose content per acre is then calculated, and on the basis of the sugar yield per acre, these canes are classified.
7. The finest of these are planted in stools of 100 each, and treated similarly as was done in selection.
8. All the canes that are equal in quality to, or surpass the canes generally established in the Island are kept for further trial, and the remainder discarded.
9. Those which are kept are then tested as ratoons, and only such as possess good ratooning qualities are grown for distribution to the estates. As will be readily seen, this method gives a most rigid and exact test of the yielding qualities which ought to be expected from those canes.

Of a considerable number of canes introduced into Jamaica from Barbados and Demerara, the following have stood the tests laid upon them, and in some instances, have excelled the White

Transparent, which has been selected at the Hope Experiment Station as the standard of comparison.—B. 208, D. 147, D. 625, D. 95 and D. 115. These five may be said to represent the general classes of seedling canes, and a short description of each including the Jamaica Black Cane and White Transparent may be interesting.

B. 208. A stout, greenish-yellow cane, with very round prominent eyes, which in some cases grow to one inch in length, while the cane is maturing. The leaves are erect and straight, broad but rather short. The juice of this cane is exceptionally sweet, the crushing above the average. As a drought resister it is spoken of in some sections of the country in high terms, St. Ann, St. Andrew and Westmoreland.

B. 147 which is another of the Barbados seedlings is an exceptionally fine cane. It has a yellow finish, with long, V-shaped eyes, which lie flat on the surface of the internode. The leaves are a dull-green, rather long and tapering. The juice is of fair quality, the expression good. The drought resisting qualities of this cane are far above anything that has yet been tested under estate conditions in Jamaica. It has the power of sending its roots deep into the lower and cooler layers of soil, so avoiding the effects of the long and severe droughts which we are subject to in Jamaica.

It has been found a most difficult grower in its early stages, but when once established, it more than justifies the trouble expended on it in the drier parishes of our Island. In Trelawny, it has been spoken of by a prominent planter, and a gentleman whose opinion may be relied on, as "The best cane that has yet been introduced under his management."

D. 625. This cane when ripe is of a rich orange yellow, of unusual size and vigour. The top on account of the size of cane and the height appears small, but is really not so when compared with others. The leaves are rather short, stout and erect. The juice content is good, but the sucrose yield rather poor. The crushing is fair. The excessive weight of the cane more than counter-balances any deficiency in sweetness. At Hope it has not been found to do well, while in Westmoreland and on wetter soils, the tonnage has been exceptionally high. As a ratoon, we are unable to say how this cane will do; at Hope it is not a success, but on soils suited to it, the opposite might possibly be the case.

D. 95. This cane has not been in Jamaica the success which it has been in other islands. Its principal advantages are found in its exceptional sweetness, and its early maturing habit which renders it a useful adjunct to those estates which lie in rainy districts if planted on light soils. The leaves suffer severely from rust, and as a ratoon it falls off considerably. In dry districts on light soils it is quite useless. The size of the cane is small as compared with others, though in some cases we find a large number of canes in the stool; this does not however bring the tonnage up to the standard of other seedlings. The cane is a dark red in colour with prominent sharp-pointed eyes; and if a piece of the rind of the cane be

removed the under surface will be found to be reddish in colour, which is a distinguishing feature of this cane.

D. 115 is a heavy growing dull-red cane with large, round prominent eyes. The leafage is rather heavy, short and erect, and there is a tendency for the eyes near the top of the cane when ripe to develop and form separate tops. This is considered a serious disadvantage. It is found that this cane does best on well-watered soils, such as we find along the coasts at Albion estate in St. Thomas. Some years ago, D. 115 gave as much as three tons of sugar per acre, under the ordinary process of manufacture. As a ratoon, it falls off after the third year very considerably, and should be re-planted after the second ratoon, if good results are to be expected. The juice and the expression compare well with other canes.

JAMAICA BLACK CANE.—The cane known generally as the Jamaica Black Cane or Creole Cane, is to be found principally in the parishes of Trelawny and St. James. It is a cane which has for many years been considered in these parishes unsurpassed by any cane so far introduced. It is claimed that its point of excellence lies in its drought-resisting quality, and the easy manner in which it grows. It is also thought by some to be peculiarly adapted to the manufacture of the German Flavoured Rums, though no reason worth considering has yet been advanced, stating why this should be so in this particular case. The disadvantages of this cane are found in its diminutive growth, under fair seasons, and the heavy percentage of trash which the cane contains as compared with its juice contents. Whether the advantageous qualities claimed for this variety be sufficient to justify the planter in continuing to grow the Black Cane to the exclusion of all others, is a question which every sugar estate manager or owner should seek to decide by most vigorous and careful experiment. For it is undoubtedly true that the average tonnage of these northside estates do not compare favourably with the tonnage of the White Transparent in other parishes. It will be claimed that this is due to the advantage of rainfall which other parishes have, but whether this is the entire reason or not is open to question.

WHITE TRANSPARENT.—The White Transparent cane is one of the best all-round canes in existence. It is a light yellow cane with a slightly pinkish top. The canes are of fair size with a goodly number per stool. The cane has a tendency to lodge, which is a disadvantage in heavy lands as a considerable number rot before cutting. The top is rather heavy with long tapering leaves. As a ratoon, we find it excellent, and as a drought-resister, equally good. The sugar and juice contents are very fair, giving good results. This cane has been taken as the standard of comparison at the Hope Gardens, and anything falling below this standard is abandoned. The comparison is made by growing the White Transparent in every section of the Experiment Station with those canes which are being tested.

JAMAICA SEEDLINGS.—The Sugar Station is producing many

Jamaica Seedlings of great promise, some of them possessing those features which are so much desired,—heavy tonnage, high sugar contents, good foliage, vigorous ratooner, and fair drought-resisting powers. On tests made at the Gardens, it is fair to suppose that the Jamaica Seedlings will do as well if not better than anything grown or introduced into the Island. One cane in particular gave nearly 70 tons of cane per acre under most trying conditions, and exceeded by 100 o/o the canes generally grown throughout the country, which yield is nearly 30 tons above normal. Careful experiments have been planned on estates in each parish, and only such of the Jamaica Seedlings as do well under these tests will be kept. For some years, many estates have worked in conjunction with the Sugar Station, in conducting experimental tests with the seedling canes, and I propose to set forth briefly some of the results which have been taken with these canes. It must be remembered that these results are not to be looked upon as holding absolutely good under any other conditions than those surrounding the peculiar features of the particular experiment under discussion. Conclusions however, may be drawn, which might be of great advantage to those who may wish to introduce these canes on experimental lines under their management.—P. W. MURRAY.

(To be continued).

CONTAGIOUS DISEASES IN ANIMALS.

It is more practical to prevent and avoid disease than to cure it, though sometimes it is difficult, because disease is tangible and causes are not ; but on the other hand many diseases can be prevented, but are cured either with difficulty or not at all. Where anthrax breaks out, deep burying or destruction by burning infected carcasses and all offal matter is essential to prevent the spreading of infection. If buried it should not be near any running stream of water. Where shallow burial is made, the germs of the disease work up through the soil and are eaten by the grazing of the grass, and if buried near running water the germs are likely to be washed out and down the stream, where they may be drunk by stock pastured along the lower courses of the stream. Anthrax can be prevented by vaccination, but this method of control is not to be recommended where the infection is less than five per cent., for that is the amount of fatalities to be expected from the vaccination itself. Extreme care should be taken in the case of anthrax, as the germs of the disease are very virile. Boiling, or a five per cent. solution of carbolic acid does not destroy them. Blackleg is another infectious disease, in which great care should be taken, as the germs will remain in pastures for years.

Cases of anthrax sometimes occur here, we have known a good many deaths take place on an estate. As a rule the carcasses are burned, but there are so many small cattle owners now who lose stock from mysterious diseases—blackleg is not an uncommon trou-

ble—who never dream of burning or burying, but let the carcasses lie to become offensive to passers by, to be eaten by dogs and other animals, and to spread the disease among their neighbours' stock. We know cases like this. But these cases are not always among small cattle owners ; we know one for instance that happened in St. Andrew where no fewer than three cows died in one small pasture in a week, and were left where they died ; the offensive smell being perceived in houses half mile away. In a country where the cattle industry is of so much importance as it is here, and where the keeping of cattle is so general, we risk a great deal in not having laws making the burning or burying of all dead animals compulsory under a penalty.

JIPPI JAPPA HATS.

CLASSES in hat-making are held under the auspices of various Branch Societies. A good many girls have acquired the art of hat-making, and so will be able to make an addition to their earnings in future. Some will be able to make a good living by this trade alone. Classes are still being inaugurated, and we hope to see hat-making as general as dressmaking. We shall then be able to export hats in thousands of dozens. But we must hold out warnings to those who may become too enthusiastic over hat-making, that the business does not provide an easy way of making high wages, but whatever girls may have been able to earn before, if anything, the ability to make hats provides an additional means of utilising time profitably.

These hats are made elsewhere than in Jamaica, and better ones too, but still there will always be a demand for a medium quality hat for summer wear, not only in Great Britain, the United States and Canada, but also on the continent of Europe, in South Africa and the Australian colonies.

A business man in Montreal writes :—"I am glad you are cultivating the Ippi Appa industry in the Island, it ought to be encouraged in many possible way. I believe the market is ready to take all that can be produced. I intend finding out more of this business and will advise you from time to time."

A firm in the United States also writes that they are prepared to import thousands of these hats, provided the shapes are all right. They say that the hats should run uniform in height, about 4 ins. high, with brims about $3\frac{1}{4}$ to $3\frac{1}{2}$ ins. wide, and to make sure that the hats are woven tight. It is a necessity also that the hats should be bleached in the sun, so as to be white, and not as now, when they are sulphured to make them look white. For export, sulphuring absolutely spoils a hat, although for local wear the hats may be blocked and sulphured. A sulphured hat does not last so long as one that is unbleached, as such hats do not stand re-dressing.

DESTRUCTION OF MOSQUITOES.

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The following letter appeared in the *London Times* lately :—

Any suggestions or discoveries that help towards the destruction of mosquitoes and other insect pests in their larvæ stage are of such great importance that I venture to ask you to give me a small space in which to record some results which have been attained in the West Indies.

It has long been known that Barbados is the only West Indian island that is absolutely free from malaria and from the presence of the *anopheles* mosquito. Major Hodder, R.E., in his report to the War Office three years ago on the drainage works that were then being carried out in St. Lucia, came to the conclusion that there was some hitherto undiscovered reason why the *anopheles* failed to propagate its kind in Barbados where the *culex* was abundant. It appeared from his observations that the *anopheles* could, or did, only breed on the ground level; none of its larvæ being found in tanks which were raised a few feet from the earth, nor even in those which were actually resting on the ground. The *culex* can, on the other hand, breed in the gutters on the roofs of high buildings as easily as in the low-lying swamps and pools. My friend Mr. C. Kenrick Gibbons, who had given a good deal of attention to the matter, pointed out at once that all the pools and swamps in this island were stocked with swarms of a tiny fish (known locally from their vast numbers, as "millions"), and that their favourite food was the larvæ of the mosquito. It is obvious that any species of that insect which is unable to breed above the ground level must fall a prey to this enemy. The fish has been identified by Mr. Boulenger, F.R.S., of the British Museum, as *Girardinus pocciloides*. Some specimens were successfully got to England, and flourished for some time in the insect house at the Zoological Society's Gardens. Mr. Gibbon's suggestion that the "millions" should be imported into malarial districts in other islands has been acted upon, and with felicitous results. For instance, the Country Health Board of Antigua, "being convinced of the useful part played by these fish in consuming mosquito larvæ, have arranged for their systematic distribution throughout the ponds and streams of the island." Similar news comes from Jamaica, whither a consignment of the fish was sent in November, 1906. The Secretary of the Agricultural Society writes that the tanks at the Titchfield Hotel are full of them, and that he had been informed that there had been a marked diminution of fever round about, the "millions" evidently accounting for the mosquito larvæ." They have also been sent to Colon and to British Guiana. One cannot help wishing that these useful little fish were given a trial in the deadly districts of Africa, like the malarial mosquito, the insects which convey the terrible diseases which are endemic there, pass the larvæ stage of their existence in water. One may add in this connection that the Swedish Consul at Frankfort has discovered a small fish ("the blue-eyed") which feeds on mosquito larvæ, and that, at the request of the Italian Government, some are to be, or have been, sent to the Campagna, where so much has been done in recent years to diminish malaria,

T. HERBRET BINDLEY.

Codrington College, Barbados, March.

[In many of our streams and ponds here, the same little fish called "millions" in Barbados, and "ticky-tickies" here are found, and many people have used them in their tanks. The consignment mentioned as having been got from Barbados was closely examined and the "millions" found to be identical with our "ticky-tickies." Tanks are very favourite breeding places for mosquitoes, and we are afraid it is only a few who appreciate the necessity of preventing

the mosquitoes breeding—for their own comfort and well-being. We are glad to draw the attention of every reader to this fact, that the little “ticky-tickies” live on the larvæ of mosquitoes, and that in districts subject to these insects and where tanks and ponds are used, this little fish should be put in these. This does not, however, do away with the fact that mosquitoes breed wherever a little stagnant water collects, and care should be taken to prevent this as far as possible, by cleaning these places with kerosine.—Ed.

BEE-KEEPING.

IN some respects it can be said with truth that the little kingdom of Hungary leads the world in apiculture. The Hungarians are a shrewd, thrifty people, agriculturally inclined—of Asiatic origin, and intensely patriotic. This last characteristic is particularly shown by the fact that the young students of the country even refuse to learn German for fear of Austrian encroachment and dominance. Budapest, the capital, is the Paris of Oriental Europe—rich commercially through the business-like qualities of the Jewish-Hungarian merchant. And it is in the vicinity of this city at Godolo that the Hungarian State School of Apiculture, whence that splendid system of governmental fostering of bee-keeping is directed, has its location. Here there is offered to the youth of the kingdom a two-years course devoted entirely to apiculture in all its branches.

It was with intense interest that, in company with the Under-secretary of Agriculture from Budapest, we inspected the bee school and farm at Godolo. Vacation was nearing its end, and already several of the instructors were on hand for the short summer session of two weeks in August devoted entirely to the instruction of women students. Among the buildings was the ladies' dormitory, but waiting for the arrival of the students. We were also shown through the men's dormitory where the regular-term students have their quarters. An interesting feature in one of the buildings was the apicultural museum where all the various hives and implements used throughout Europe and America at the present time, as well as the old models of hives were on exhibition. We were then shown through a series of bee-houses filled with hives of the Berlepsch pattern, so commonly used in Eastern Europe.

The Banater (or Hungarian) bees are a very gentle race, resembling in many respects the more familiar Carniolans. They are somewhat smaller than the latter, and have a greater tendency to show yellow. This yellow becomes more pronounced toward the east, in the Siebenberg region. The writer also noticed, in going southward through Servia, Bulgaria, into Turkey, a gradual shading off into yellow, and a steady increase of the excitability shading off into the very excitable bees of the Orient. It is said by Hungarian bee-keepers that they have no excessive swarming with their bees, and that the Banater bees are yet prolific and excellent

honey-gatherers. This is also the testimony of those who have had experience with this race of bees as imported into this country.

Among other things seen at Godolo were the apiaries in Langstroth-Dadant hives, and also the shops where the students learn to make hives of this and other patterns. The different experiments being conducted on the farm with various honey-producing plants were indicative of the value of the school to the bee-keepers at large.

Connected indirectly with the school are some eight or ten inspectors who each have a district of the kingdom to travel over and instruct and encourage the people in bee-keeping. Along the lines of the State railway, at the section and station houses, are small apiaries fostered by the government, for the dissemination of knowledge concerning bees. To those interested in bees it is a source of great pleasure to ride along on the train and see apiary after apiary and realise that the little kingdom of Hungary annually expends in the interest of apiculture £10,000, or a sum equal to five times that expended annually by the United States for apiculture.

* *

It is now possible to secure from the Forest Service of the United States exclusive bee-ranges in which the bee-keeper is protected from over-stocking by others on all of the forest reserves now controlled by the government. So far as we can learn from the "Use Book" of the Forestry Department no charge will be made for this exclusive right. In this respect this government is more liberal than that of Victoria, Australia, which charges a cent. per acre for the same service.

* *

THE plan I use to stop robbing is to change the place of the robbed and the robbing colonies. It works so well that I have never tried to improve upon it. The uproar is twice as bad after the change as before; but the robbing is stopped at once. It is amusing to see those robbers come rushing out with their loads of honey, to find out they had to take it back where they got it and turn around and defend the hive they had been robbing only a moment before. I have followed this plan ever since with good success.—ISAAC BALMER, Burlington, Ont.

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MANY fruit-growers will be spraying their trees while in bloom. Our bee-keeping friends should wait on these people, and in the most kindly manner show them their mistake from the standpoint of the fruit-grower as well as that of the bee-keeper. If you haven't any literature to hand them, write us for it.

* *

WILL artificial queen-rearing cause a deterioration of our bees? Let me quote: "As I look back I find that the seasons when we received our largest surplus have been without a single exception, the ones following the year when we reared our queens from some

special queen whose colony had given us an unusual amount of surplus the previous summer. It requires only four or five years of careful selection to make a great change in bees in their honey-gathering qualities and in their disposition, until they seem like quite a different race of bees." This does not look like deterioration. Better tack this paragraph up over the door of the honey-house.—*Gleanings on Bee Culture*.

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PAGE 468, Nov. 22, 1906.—*British Bee Journal* states that the New Zealand government has introduced a bill, "The Apiaries Act, 1906." In addition to *foul brood* it seeks to suppress bee-moths and any other diseases or pests from time to time declared by the Governor in Council. This latter is a very wise precaution, and enables immediate action to be taken when new enemies appear.

GORDON'S COCOA DRYING MACHINE.

I am not concerned to write specially about this drier, and I have no interest in recommending it, but I have thought some information about its working might be of use to my fellow cocoa planters, who may be contemplating the acquisition of a drying apparatus of some kind, to enable their product to be cured independently of weather conditions.

The cocoa drying machine I have in use, as supplied by Messrs. John Gordon & Co., Engineers of London, is capable of taking a charge of 4,000 pounds of wet cocoa. It is provided with a Fan and Heater for utilising exhaust steam, and is driven by a vertical Steam Engine (with a vertical boiler) which also drives a circular saw, for cutting the wood fuel into billets. There are four compartments in the drying machine, and a set of shutters for shutting off the air from two opposite compartments, when it is required to treat half a charge, or say, 2,000 pounds of wet cocoa. The cost of this machinery, including transport, and its erection in Jamaica, was roundly £500. It is placed in what was the boiling house of a sugar works, a large lofty building, jalousied on two sides, the space in which affords sufficient accommodation for containing and "breaking" the cocoa pods, and for fermenting the cocoa beans. The machinery is substantially erected on cement concrete foundations and walls, and works very smoothly. The floor is also of concrete. Water is laid on which can be used for washing the beans—in a large perforated tray—if that is thought desirable or necessary—for flushing the sweating floor, etc. In erecting this machinery, I strongly advise the employment of a competent mechanical engineer. I do not propose to describe it minutely, but for the benefit of those wholly unacquainted with it, I may say that the drying machine consists of a rotating cylinder, six feet in diameter, and six feet long, having a hollow axle, through which hot air is forced amongst the cocoa, at a high pressure, by means of perforated pipes fixed in

the axle. Each of the four compartments, into which it is divided, has a series of wing plates and a door for filling and emptying. It is well ventilated, by oblong perforated plates in its circumference, through which the moisture, or vapour from the cocoa, is discharged, as well as dust, spent beans and other small matter. It rotates slowly—one revolution in two minutes—so that the beans are kept moving during the whole process, and the rolling motion tends to clean and to polish them. The wing plates are intended to prevent the cocoa from collecting and sticking together in the cylinder. A large secure and well ventilated building is distinctly a desideratum, so that the moist air coming out of the cylinder does not hang about, and for other reasons.

Contrary to usual practice, I do not “break” the cocoa pods in the field, but bring them to the cocoa curing house, in which they are deposited and broken. The labourers employed in “breaking,” sit round the heap of pods on small forms, the wet cocoa, as husked, is placed in baskets and emptied into fermenting tubs—all within the same building. The husks are removed to a manure pit, and covered with slacked lime. The beans, according to the weather, and other conditions, are fermented from three to five days. When ready to be placed in the drying machine, they are filled into baskets and weighed, in order that each compartment in the machine may be equally charged. I have found that the charge suggested, viz., of 1,000 pounds is the best and the proper quantity to put in. It is not, however, always possible to put in the exact quantity, and it may be necessary to divide up less than 4,000 pounds. In my experience it is not desirable to place much more than 4,000 pounds in the machine. A few pounds more will make no perceptible difference, but if, say, there are several hundred pounds weight, over, I prefer to sun the overplus, for say about six hours, and then to place it, equally divided, into the four compartments, for by that time, owing to rapid evaporation in the drier, there will be room for it, without harming the cocoa in the drier. In wet weather, this plan, of course, would not be practicable, therefore it is necessary to calculate, as closely as possible, each cutting of cocoa, so as to produce, as nearly as may be, 4,000 pounds of wet cocoa. I estimate this by the number of waggon loads of pods carried from the field, after experience of what these loads yield. Allowing two days for drying each batch, the machine can cure three lots in a week, the persons in charge would have to be up all night, on each alternate night, as the process should be continuous. Cutting must be arranged to suit the working of the drier, which will cure the beans in an average of 36 hours, providing these are placed in it, in proper condition. And here I might mention that cocoa is not always in the same condition as to moisture and colour, when removed from the fermenting tubs, and I have found it advantageous, when the cocoa still shows an excess of moisture—and weather permitting—to spread it on trays and expose the beans to the sun for half a day before placing them in the drier. In the absence of sun, there is the alternative of “dancing” the wet cocoa on a clean wooden floor,

so as to get rid of the excess of wet and slimy matter. When either of these can be done, the beans are not nearly so apt to stick together or to adhere to the wing plates and corners of the cylinder, as when put in too moist from the fermenting tubs. It involves more labour to place the cocoa in the sun before weighing into the machine, but saves time in curing, and in the cleaning of the cylinder. And I may also say that, when the cocoa is wet and slimy, a certain amount of the beans *will* adhere to the cylinder, while the perforated air pipes become covered with a coating of dried brown matter, resembling thin bark, which is difficult and troublesome to remove, but which must be removed to permit the entry of the heated air before again using the drier. The perforated plates on the circumference also become choked with sludge, when the cocoa is put in too wet, so that the vapour from the drying beans cannot freely escape. When the fermented cocoa is fairly dry, and in the condition to suit the drier, these things do not occur, neither does any appreciable quantity of beans adhere to the cylinder, nor do the pipes become much coated. These and many other contingencies are matters of experience, in working the machine, which should be carefully studied. If intelligently used, under the maker's suggestions, it cures admirably, but it will *not* cure, without great loss of time, labour and fuel, *any* kind of stuff, carelessly thrown into it, without proper adjustment of weights or too wet and sludgy, or over fermented, as I have known to be expected of it. I have even heard of 7000. pounds of wet cocoa being packed into a machine of the same size as I am writing about, rendering any movement of the beans or any circulation of air impossible, and surprise expressed that the cocoa would not dry! The drying cylinder should be thoroughly heated up before being charged with cocoa, and the heat continued when loading. This is done by setting the fan going, and allowing the air to be heated to 150 deg. or over.

As regards the temperature of the air to be forced into the drier, there is a thermometer placed between the heater and the drying cylinder, which shows the temperature of the air passing in to it. A 3 way valve on the exhaust pipe of Engine allows this to be easily regulated. It is suggested that the air should not be heated over 150 deg. and that a high temperature, at the beginning, may crack the shells. I prefer to work at about 130 deg., for when the air is heated much beyond this, and the temperature possibly allowed to vary, the beans are inclined to shell before being properly dried. With care, this should not happen. The temperature of the air is, however, not of so much importance, as the quantity of air injected, and this can only be done by keeping the engine at full speed, when the Fan will also run at its highest and proper speed.

Breakage of beans in the cylinder is sometimes due to too much movement, and this can be obviated by placing the contents of the four compartments into two of them, when nearly dry, but I do not recommend this, unless the machine started with less than

its proper charge, and the beans are found to be rapidly shelling before they are nearly cured.

When the cocoa is nearly dry, it must be carefully watched to know just when to stop the machine. The beans may begin to shell a little, but that does not indicate that the mass is dry. They must be handled—some squeezed and cut open—to ascertain their exact condition, and this certainly requires care, skill, and experience.

There is no trouble in emptying the cylinder, the doors are opened, the cylinder made to rotate, and the dried cocoa falls on the floor below. The cylinder of my machine is hung about 30 inches above the floor, which I find a suitable height. I spread the cocoa on wooden trays till quite cool, and after, if properly dried, it can be bagged for shipment.

As I have indicated, when the cocoa is in a proper condition—that is not too wet and slimy—to be placed in the machine, the drier requires very little cleaning, but it should be cleaned out each time it is used, and any beans or matter adhering to the woodwork, or to the pipes, removed. If the cocoa has not been in proper condition, the cleaning will be both tedious and troublesome. To get the best work out of Gordon's Cocoa Drying Machine, I may summarize what I consider essential.

The drying cylinder should be clean. It should be heated before and during loading. Each compartment should contain the same weight of cocoa, and never an excessive weight, i.e., much over 1,000 lbs. The cocoa should not be too wet nor too slimy when placed in the drier. The engine should be run at full speed to enable the Fan to run at its proper speed. The temperature of the heated air should be uniform and not allowed to vary from the degree which, in practice, is found to be most suitable for curing without the beans shelling. The drying should be continuous. The ventilating plates in the circumference of the drier should be brushed and kept free from any adhering matter, while the drier is rotating. The Machine should not be stopped nor the doors opened, until it becomes necessary to ascertain the condition of the beans. The cocoa should be dry and properly cured before emptying the drier. When emptied, the beans should be at once spread out thin to allow them to cool quickly, either on trays or on a clean wooden floor, and not left in a heap.

I conclude with a quotation from a letter of a well known Grenada cocoa planter, who possesses a drying machine similar to mine :—

“The return of cocoa dried in the machine is two or three per cent. greater than that obtained from cocoa dried in the sun, but a merit of the machine often overlooked is, that it places the planter who possesses one in the position of being able to reap his cocoa promptly as it ripens, thus relieving the trees at the right time. For he does not depend on the sun to dry his cocoa, but has in this machine a certain means of doing so. Cocoa planters

unprovided with the means of drying cocoa by artificial heat are in wet weather unable to pick cocoa as often as they should, and the two chief consequences of this inability are, that the trees are made to carry ripe cocoa too long, thereby restricting their bearing, and the risk is incurred of placing on the market "weathered" cocoa instead of sound, clean, bright beans."—R. C.

CULTIVATION OF POTATOES (IRISH).

FOR the information of correspondents who are beginning to grow Irish potatoes, and are asking for information from us how to grow them, we give the following hints :—

A good deal of information on potato-growing has been already given in the JOURNAL, and a full and plain article was printed in the JOURNAL for October 1898; this, however, is not within reach of many of the readers now.

Potatoes grow best in a light, loamy soil, and the earliest maturing potatoes in the north are raised along the seaboard where the soil is very light and sandy. As a matter of fact potatoes, however, are grown in all kinds of soil, but one essential is, that if it is not already loose and rich, it must be made loose and rich by cultivation and manure. The ordinary red soils found in Manchester and St. Ann are first class potato lands. As potatoes are so quick-growing that in ten to twelve weeks they are ready for use, it is necessary that the land be rich; if not naturally rich it must be made rich with manure. The best form of manure is old cow manure, and an old cow pen is an ideal place, but not if the cows have been in it recently; the soil is too rank in this condition, and would suit cabbages better than potatoes. Other excellent manures are sheep and goat manure, rabbit manure, fowl manure, if this last has been mixed with a large quantity of earth; fresh horse manure is not suitable unless on clayey soils. The manure should be if possible, fine, that is not long, coarse and strawy, in which form it makes the light soil too loose that it dries up quickly. When coarse manure only is available, the best way to use it is as a mulch; after planting the potatoes coarse manure can be laid along the drills.

The first essential, therefore, is to have loose, rich soil. The next is to get good seed; the ordinary shop potatoes sometimes are good enough, but they cannot be trusted for seed purposes. Sometimes when they have begun to shoot, the sprouts are broken off. When one is planting his own potatoes, it must be remembered that if they are to be used for eating purposes they have to be kept in a cool, dark place, but for planting purposes they may be "greened." They get green by exposure to the sun and light.

There has always been a difference of opinion as to the best size of potato to plant. Different seasons often give different results, but as a general rule careful experiments have proved that of (1) large whole potatoes, (2) medium whole potatoes, (3) small whole potatoes, (4) large cut sets, (5) small cut sets,—the large whole po-

tatoes will produce a gross return of the largest potatoes, but owing to the quantity of seed required, the net return will not be so great as planting medium or small whole, and these again will not show so good a net return as planting medium potatoes cut into two sets, with one or two eyes in each set. The danger here in planting cut sets, is in getting continuous wet weather when in humid climates, and especially in heavy soils the cut sets readily rot. We prefer well-sprouted seed from the size of a pigeon's egg to the size of a small hen egg. The seed should in all cases be sprouted before planted, but not left long enough to have long sprouts.

If cut sets are used, they should not be cut long before planting, for experiments have shown that by using freshly cut sets they have given a very much increased yield, more than planting sets dried through keeping them for several days. To sprout the potatoes they should be placed in a box, eyes upwards, where they may have moderate light but no sun falling on them, and left till the sprouts are a quarter of an inch long, and these sprouts should be handled carefully so as not to break or rub them. As a general rule, deep planting has to be avoided, but that is mostly in planting fine seeds and trees. Irish potatoes like to grow in a moist and cool soil; sweet potatoes, on the other hand, like a hot soil and are therefore grown in hills or banks.

We notice that as a general rule Irish potatoes are not planted deep enough, i.e., not covered over deep enough. Drills should be made from 2 feet to 3 feet apart for handwork, and for cultivation with horse implements 3 feet apart, and should be made from 5 in. to 6 in. deep. It is better to spread the manure on the soil before the drills are made, but old cow manure can be laid in the bottom of the drills and mixed with the earth there. The seed should be planted 12 inches to 14 inches apart, and covered over from 3 inches to 4 inches deep at least. As soon as the sprouts show 2 inches or 3 inches through the soil, they should be hilled up carefully. Potatoes are often killed in the hilling operation by a labourer digging into the ridge too deep with his hoe, and breaking the roots of the potato. The earth should be simply scraped up lightly from between the rows to make ridges.

Land for planting in October and November should be roughly broken up now and left to be weathered by the rain and air, then in a month or so the soil will be crumbly and soft for drills to be made.

SCALE ON CITRUS TREES.

REPORT FROM DR. TILLMAN.

In accordance with your request I have used the tin of V 2 Fluid you sent me to spray for white scale, and am sorry to say that I have had very unsatisfactory results from it, and do not consider in the proportion advised for use that it can be recommended. One great and insuperable objection to its use (even if it were used to better advantage by some one else than myself) would be that the solution has to be mixed with soft or otherwise rain water. That at once damns its universal use in the hills, as what proprietor or peasant could afford to use their stored rain water for mixing a spraying solution.

I selected a fairly large tree that was badly infected—took half the tin and mixed it in proportion as recommended, and gave the tree a thorough and complete spraying with the double nozzle barrel pump. At the expiration of nine days I found little or no difference in the vitality of the scale. I used the other half of the solution (each time it was mixed with warm rain water) and again gave it a thorough spraying. A few days after that we had a heavy shower of rain which must have washed off the scale in large quantities, had the solution been at all efficacious, instead of which they were quite lively and I had eventually to use my own spraying solution to kill the scale.

Regret exceedingly that I cannot report more favourably on the solution, as I realize the enormous advantage it would be to the country to have an efficacious and easily mixed remedy for the scourge. It will not be realised until too late what a tremendous loss to the peasantry as well as to the revenue on railway freight alone the unchecked spread of the disease will mean.

Annually the cry goes up that there is no profit in oranges, and although it is perfectly true on account of the cruelly indifferent way the foreign markets are treated by ourselves, yet that does not alter the important fact that each year an enormous amount of money is circulated by the different buying centres. A large percentage of this filters through to nearly every peasant proprietor in the hills. The amount paid for railway freight must be very large, when it is realized that from about the middle of August I suppose an average rate of ten to twelve thousand cases a week go forward until the end of the year, often far into the beginning of the new year. All this must cease, and very soon too.

The disease is spreading very rapidly indeed, and this second year's drought is making it worse, and it is merely a question of time before the industry will practically be destroyed, and the lime industry is bound to come by the same fate.* I have seen it myself killing all the trees in settlers' yards, and in talking to many of the settlers that come as patients from Upper Clarendon and Southern Manchester, they one and all tell me how it has killed or is killing all their trees.

Large sums of money have been spent over and over again by the United States Agricultural Bureau in systematically fighting insect and similar pests to agriculturists, and many a prosperous industry has been kept in existence and improved, both State and individual very materially benefitting. Here the vast majority of cultivators are ignorant peasants, who no matter how intellectually his better circumstanced neighbour is willing to fight an agricultural pest, his efforts are nullified by the poor peasant's not-to-be-blamed ignorance. The better class proprietor is for ever groping in the dark, making innumerable mistakes, in experimenting, there being no specialist on the subject to appeal to for expert advice. My grove that I was so proud of three years ago, is in desperate plight now: and when I realise the number of mistakes I have made—some entailing considerable financial loss—in experimenting, I must confess it is very disappointing to say the least. More than 75 per cent. of the planters who embarked in the citrus industry nine or ten years ago, have dropped out disgusted.

The sulphur, lime and salt solution I use is certainly death to the scale, but the question arises (and no one here is capable of telling us in time) whether it is not too harsh, inflicting too severe a shock to the tree, and whether the damage done is going to so influence the next bearing as to make it worth while continuing the venture or not. If the trees have to be annually done, the grove must and will have to be chucked. It does seem a pity, apart from the financial loss, as I have undoubtedly succeeded in making the trees bear earlier each season. This year I succeeded in getting over three thousand cases of grape fruit and fifteen hundred cases of oranges from approximately not more than 12 or 14 hundred trees (all the others having either been cut down and rebudded, or are young supplies not bearing) and I got them all in from the

beginning of April to end of July, or rather the first week in August, and if I had only had rains in February, or enough irrigation water, I would have had another bloom that would very likely have given another ten thousand boxes for August and early September fruit. The drought and lack of irrigation unfortunately made a lot of the fruit packed last month poor and juiceless, although they sold extremely well.

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[White Scale, we suppose, has always been on citrus trees in Jamaica, but not to any extent until during these last two years, when the lime and orange trees growing in the pastures in St. Ann and Trelawny began to be more and more affected, until in many places they were completely smothered, and the lime trees in the pastures began to die in hundreds through its blighting influence. Some cultivated orange groves in St. Ann would also soon have died out had it not been for the energetic action of the managers in fighting it. At the same time some groves were not affected by this scale in spite of the drought, either through being isolated from wild trees or the strong growth of the trees, perhaps owing to a moist subsoil or a heavy mulch. Trelawny as a rule, has a deeper soil than St. Ann, and the white scale was not so bad there, but still lime trees were badly affected. Wild orange trees are not so common in Trelawny as St. Ann. In St. James the white scale was equally bad as on the citrus trees in St. Ann.

The matter was discussed at the meeting of the Board in September 1907, and in the JOURNAL for October, the lime, sulphur and salt wash, as already used in large groves here, was recommended to be applied with directions how to make and how to use. We had considerable correspondence with growers on the subject, and those who had only pasture-grown trees stated, that this lime, sulphur and salt wash and its application would cost more than the lime trees were worth. Some owners of wild orange trees said the same thing, therefore the question was simply this,—if it did not pay to treat the orange trees and lime trees to kill the scale, the trees must simply be left to die, or, if through luck, heavy and continuous rains came, there might be a chance of their regaining enough vitality, helped by the moisture and the rain washing the scale off, to recover their normal vigour, when the white scale would probably be greatly diminished. But heavy and continuous rains have not come, the drought has continued until this year, and although we have had moderate rains, the trees as a rule are already too much covered by this scale to be able to throw it off. If the trees, however, are to be allowed to dwindle away, blighted by the scale, they will be a constant menace to cultivated groves in the vicinity, and the owners of these groves naturally are aggrieved at this. We have received letters from all the orange growing districts in the Island, complaining of the havoc being committed by the white scale. Small settlers in the Dry Harbour Mountains say that in a short time there will be few orange trees left there. Now small settlers have as a rule only a few trees standing in their yards, and when the owners of thousands of trees could not very well protect all the wild trees, the small settler could with his family treat his trees in a short time, and even if they have not the lime, sulphur, and salt wash, the application of scrubbing brush and elbow-grease can keep this scale under if repeated often enough. The lime, sulphur and salt wash is within their means and capabilities, and districts could easily arrange with the agricultural Instructor to give them an exhibition on how to make and how to use it. If they do not personally interest themselves, but take the affliction as an act of God like a hurricane or earthquake—they are not only acting against their own best interests, but against the interest of the country at large. If thousands of wild orange trees die out on the large estates, those who have well kept trees will likely find them of more value than before.]—Ed.

WHAT DO WE KNOW ABOUT PIGS ?

NOTWITHSTANDING that in Jamaica we spend annually about £30,000 in the importation of pork and its products, we know less about pigs and pork production than any other branch of farming, and although pigs are to be found on most properties, only a very limited number of penkeepers and planters are interested in improving the native breeds.

The thin leggy pig, that is expected to "look libin" during the first twelve months of its life, is in evidence everywhere, and the period of fattening adds another six months to its age; confined in a small pen with food thrown in at uncertain intervals, it acquires an unhealthy fatness, and weighing at the most 160 lbs. at eighteen months old, it is considered fit for the butcher. What eighteen months has taken to accomplish under these conditions, eight months could have done with proper care and feeding. Very little is known of the profit that can be made out of pigs, or how handsomely the breeder will be rewarded for giving his pigs even a small share of his time and attention.

We have a local demand annually for the products of 17,000 pigs of 150 lbs. live weight which, at 3d. per lb., represents over £30,000. Surely this is a matter worth securing!

On page 232, in last month's *Agricultural Journal*, there is a short account of the first Co-operative Pig Factory, in County Tipperary, Ireland, which has been a great success and source of profit to the farmers there. The curing of bacon and hams has passed the experimental stage in Jamaica also, and during the past three years the little bacon factory of the Lyndhurst Dairy Co. has had a ready demand for the bacon, ham and pickled pork from over 700 pigs. More interest in pig-breeding and co-operation is all that is needed to develop a profitable local industry, and the attention of penkeepers, planters, and small proprietors is commended to the following notes which may be of interest and will, it is hoped, induce others to publish in these columns the results of their experience.

DAILY GAINS IN LIVE WEIGHT.

A well fed growing pig will gain 1 to 3 lbs. per day, and the following may be taken as a weight for age scale:—

	Age 4 ms.	6 ms.	8 ms.	Average gain
Highly fed pigs in Northern Countries	240 lbs.	360 lbs.	480 lbs.	2 lbs. per day
Ordinary farmers in " "	120 lbs.	180 lbs.	240 lbs.	1 " " "
Ordinary native pigs in Jamaica "	80 lbs.	120 lbs.	160 lbs.	2/3 " " "

If the ordinary native is crossed with Poland China or Berkshire, it will raise this scale of increase 50 per cent. equal to that of the farmers' pig in England or America.

Many native bred pigs have been purchased by the Lyndhurst Dairy Co., weighing 1 lb. for every day old, but these have invariably been pigs of the large black type, which are very big feeders, and yield by no means as good quality pork, or are as profitable to

feed as the crosses with Poland China or Berkshire. The following is an example of one of the heaviest of this type of pigs slaughtered :

Age $10\frac{1}{2}$ months, weight 320 lbs. Had this pig been corn-fed, it would have weighed over 400 lbs.

In the feeding experiments conducted with a quarter to half bred Poland China or Berkshire pigs, 10 lbs. per week has been found to be the average gain an 80-lb. pig will make if corn-fed. The following is an instance of 12 lb. per week gain. This was a barrow pig out of an ordinary native by a half-bred Poland China and Berkshire.

Weight at 5 months old	152 days	120 lbs.
Gain in 5 weeks	35 "	60 "
	<hr/> 187 "	<hr/> 180 "

In this case only one bag of corn 112 lbs. with chopped sugar cane fed *ad libitum*, produced 60 lbs. of pork in 35 days.

Value of gain in weight, 60 lbs. at 3d.	s. d.
	15 0
1 bag corn	s. d.
Cost of feeding Cane (bought) }	8 0
4½d. per week }	1 10½
	<hr/> 9 10½
	5 1½ profit.

There is a mistaken impression in Jamaica that it cannot pay to feed pigs on corn at 8s. per bag, but the writer's experience is, that corn, fed in conjunction with cane or ripe bananas, will return a profit of 50 per cent. Another example of profitable gains is that of a half-bred Poland China and native bred shoat, three months old, weighing 45 lbs., that doubled its weight in 45 days, on a ration of $1\frac{1}{2}$ lbs. of middlings per day, divided into three feeds, and guinea grass *ad libitum*.

45 lbs. gain at 3d.	s. d.
67½ „ middlings at 1d.	11 3
	<hr/> 5 7½
Profit	<hr/> 5 7½

Profit on cost of feeding in this case is exactly 100 per cent.

It has been ascertained by experiments in the feeding of pigs conducted in northern countries, that it takes on the average

5 lbs. of corn (maize) to produce 1 lb. of pork if fed alone

$1\frac{1}{2}$ „ „ „ „ „ „ if fed with skim milk *ad libitum*.

In the previous quoted local experiment of feeding corn with sugar cane, it will be noted that it took only 2 lbs. of corn to produce 1 lb. of pork.

By the use of the scales and the weighing of pigs at intervals of a week, every breeder can conduct his own feeding experiments with whatever feeds are obtainable in his district, and if he finds imported corn too expensive, out of such admirable pig feeds as ripe bananas, sugar cane, cassava, cocoa heads, etc., he may strike a suitable ration that will be a profitable substitute for corn.

A. H. PINNOCK.

COMMENTS.

RABBITS.—These are most useful animals, not only for the sake of the flesh which is a good change from the continual fowl and turkey, but also for the manure. For their size no stock make such a quantity of rich manure, but we see them running very small and puny, mostly the effect of in-breeding and irregular feeding.

We have just imported a trio of Belgian hares for Mr. Palache, who is making a specialty of these, a buck and two does. They arrived in the pink of condition, and are beautiful animals, all bred from champion strains, and the buck is quite unrelated to the does. In a few months Mr. Palache will have a splendid stock for sale, if no accidents happen.

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VEGETABLE GROWING.—A correspondent writes :—"Through the activity of the J. A. S. and the Branch Societies, many people have taken to the growing of vegetables, which go to help the family table, but I find that many of our people do not know to cook these vegetables so as to make them toothsome, and I think it would be a good thing if a booklet could be got up by the J. A. S., with recipes for the cooking of these vegetables, some of which are new to Jamaica culture."

We formerly published household hints in the JOURNAL, but sufficient notice did not appear to be taken of them to warrant their having a page or two, so we discontinued these notes. Latterly however, there has been a demand for something of the kind, and we think hints on household matters important enough to deserve a page.

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POTATOES.—Each year we import seed potatoes for the convenience of members of the Society. In August JOURNAL we asked for the orders and we repeat it again in this JOURNAL, and at the end of September or the beginning of October we shall send for the potatoes. But a good many will not give their orders until the time for planting is upon them, and then they expect to get them without fail. We again make it plain that we import according to order and do not supply less than a barrel; anybody who finds that a barrel is too much and wishes to plant, can arrange with neighbours to divide one. We also wish to make it plain again, that the seed we import this time of the year is not fresh. Some of our correspondents forget that up north there is a winter, and that the spring is the planting season, and new seed is not available until autumn when all the crops are taken in, so that we cannot supply fresh seeds in August as we are often asked to do. Potatoes, corn, and vegetable seeds supplied before October will thus be all from the preceding year's crop, or even older. Although some few seeds keep well for years, and even improve if kept over for more than a season, as a general rule, seeds should be as fresh as possible.

The price of the seed potatoes will not be more than 14s. a

barrel, and we require that amount to be deposited. We shall also take orders for vegetable seeds this month and supply in October.

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BEST STATEMENT OF ACCOUNTS.—The *Jamaica Times* has published the details of an interesting competition, of which the prize offered is two guineas, by Mr. A. Holland, Manager of Messrs. Nathan, Sherlock & Co., Ltd., Kingston. This competition is confined to small settlers. It is for the best statement of accounts, that is resulting in most profit in connection with their holdings during the year ending 31st August, 1908. This statement is to be submitted to the executive committee of a Branch Society, and certified by them as *bona fide*. Full particulars are to be found in the *Jamaica Times*.

Correspondents have asked why this was not made prospective instead of retrospective, as few settlers keep books, and this competition would spur them on to keep careful accounts. Perhaps a future competition may be made prospective, but at present it will be most instructive to learn how really few small settlers have kept accounts.

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BIRDS.—In some places we have seen dead owls hung up; they were shot either through a wanton thirst for destruction, or out of ignorance as to their usefulness in the economy of nature here. We addressed a communication to the Branch Societies, pointing this out and asking the opinions of the members as to bird life in general in Jamaica—whether it was increasing or decreasing. We are glad to note the general sense of appreciation of the usefulness of the owl as one of our keenest rat destroyers. These opinions of the Branch Societies are interesting. A few are given in this issue, but most will be contained under Branch Notes in October issue. Besides the owl and a host of insect-eating birds, we have many animal friends to agriculture, the toad for instance, about which we have often called attention. When we see small boys stoning toads unchecked by their elders, we should like if the toads could turn the tables on them. We agree with the Stewart-Town Branch that the small boy and the catapult do more destruction among small birds than all other agencies together. We have always held this strongly.

School teachers could render valuable service, if they would have quiet talks with their pupils on the subject of kindness to animals. This appeals more to anybody when you can show that it is beneficial to the pocket to be kind. * *

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BROOM CORN is extensively grown in the hot and dry parts of the United States, principally for the sake of the heads which are made into brushes. We import a considerable quantity of brooms and brushes, and if we grew broom corn, we could possibly save most of our imports in this direction. It is a crop of double value, for the seed is of the same nature as guinea corn, useful for stock

food, although the stalks are of little value for fodder. Broom corn is grown in the same way as guinea corn.

We are importing seed which we will send out in 3d. packets, post free, for trial.

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VEGETABLE SEEDS.—The supplies of the best vegetable seeds for the convenience of members of the Branch Societies, will arrive in the beginning of October, and will be sent out at 3d. a packet.

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GUINEA CORN.—It is difficult to gauge the supply of seeds, as last spring we had guinea corn left in hand, while for the August planting the supply was finished in two weeks, and we had to disappoint many who wrote for supplies. We are, therefore, importing more, which will arrive in October. In some few localities guinea corn can be planted at the end of October if there are good heavy seasons, and the land is prepared beforehand.

We have had a few complaints of "no results" from some of the guinea corn seed lately supplied. We find red guinea corn very much beloved by ants, mice and birds, and we have had a most disappointing germination from the first seeds planted, but in the second planting, practically every seed has germinated. This second lot was first steeped in water for 12 hours, and then passed through kerosine. The seed can remain in the kerosine at least a minute, it then absorbs the flavour, and if anything, we think germination is hastened.

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COTTON.—The Cotton Conference held in Manchester between the Lancashire spinners and the West Indian growers was an excellent idea excellently carried through, which should be productive of excellent results. The Hon. H. C. Bourne, Chairman of the Board of Agriculture, Mr. J. R. Williams, member of the Board of Management of the Agricultural Society, and Mr. Conrad Watson, member of the Board of Agriculture, represented Jamaica, and all three took part in the proceedings. The cotton spinners have now a better idea as to the conditions of cotton growing in the West Indies; therefore their minds are disabused of the idea that some may have had, that cotton is an easy thing to grow; that because a plant may be indigenous to a region, and specimens of it may grow wild, that it is a mere matter of sowing to reap bountifully. Commercial result is quite another matter from experimental result too. Cotton growers too, probably appreciate better now, that buyers are not their natural enemies but must give a living price. They (the buyers) are shrewd enough to know that cotton will not be grown unless it is fairly profitable.

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SHOWS TO BE HELD.—Newmarket Show, 9th November; Santa Cruz Show, 9th November; Kendal Show, 26th November; Bath Show, at Potosi, 29th January 1909; Sav-la-Mar Show, 1st January (probable date); Gibraltar Show, 6th January.

PRIZE HOLDINGS COMPETITION.—The Prize Holdings Competition has already been held as follows:—1902-03—St. Ann, Manchester, Trelawney, and St. Mary; 1903-04—Westmoreland, St. Elizabeth, and Hanover; 1904-05—St. Andrew, St. Thomas, St. James; 1905-06—Portland, St. Catherine, and Clarendon; 1906-07—Trelawney, Manchester, and St. Ann; 1907-08—Hanover, Westmoreland, and St. Mary; 1908-09—St. James, St. Elizabeth, Clarendon, and St. Andrew; 1909-10 (probably) Portland, St. Thomas, St. Catherine and Trelawny.

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THE cost of collecting the wild rubber of the forest is put at 1/6 to 1/10 per lb. This will steadily increase, as rubber gets scarcer and labour dearer, so that in a few years it may reach 2/.

Cultivated rubber in favourable localities, can be produced at 1/ a lb., and is being produced generally now in the East at 1/6 a lb.

BRANCH NOTES.

Bath—Owls as far as my observation goes, are not wantonly destroyed in this district, the small boy being its greatest foe. Birds of all classes are decreasing in numbers in this locality, in so much so that although I am considered a good shot, I have not bagged as many as fifty birds during the two past season. The decrease has been particularly noticeable since the storm of 1903. White-wings are plentiful during the close season, but it is difficult to say what becomes of them after the nesting period.—J. E. DUFFEY, Bath P.O.

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Hector's River.—The first annual distribution of prizes in connection with this Branch took place at Seaside, on the evening of the 27th August, and was a brilliant success. After a short opening prayer by the Rev. A. H. Swift, the Rev. W. Peto Sibley, the President of the Society, gave a short address, in which he welcomed all comers, especially Mr. and Mrs. F. B. Brown, who had come a long distance to help and to make the thing a success. He was sorry that Mrs. Sibley and Mrs. Evans, also L. A. Wates, Esq., who should have taken part, were unable to attend. Our Society was a young one, and the holding of a show was a bold venture, but he was glad that the venture had been a success. Next year it is hoped that with the aid of a substantial grant from the Agricultural Society and subscriptions, we will be able to have the show on a bigger scale, and give all the winners cash prizes as well as certificates. The Secretary, Mr. E. Jacobs, then gave an appropriate reading selected from the *Livestock Journal*. This was followed by a practical talk from Mr. F. B. Brown, full of good, healthy advice how to better the conditions now obtaining in our country. The Vice-president, the Rev. A. H. Swift, gave an address on "The Lessons to be learnt from the Show." He proved himself a very keen observer, mildly criticising the faults, he gave suggestions for removing them from succeeding shows; and pointed out to exhibitors the right spirit of showing. The first prize certificates were distributed by Mrs. A. H. Swift, who said she regarded the Agricultural Society as a great incentive to the progressiveness of the district. Personally, she enjoyed the show very much, and she was glad to have the pleasure of presenting the certificates. Mrs. F. B. Brown who distributed the second prize certificates, was one of the Judges at the show, and had had the chance of seeing all the exhibits. She would urge that folks give up the anyhow way of doing things and be satisfied with nothing short of "the best." She promised a prize for the winner of the greatest number of first prizes in minor products at the next show. After the certifi-

cates were awarded, Mr. Brown gave the cash to the winners of the special cash prizes. A resolution was moved by Mr. Sibley, and seconded by Mr. Swift, and unanimously agreed, that the Society holds an annual show. The singing of the Doxology brought the evening's proceedings to a close.—E. JACOBS, Secretary.

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Stewart Town.—The monthly meeting of this Branch was held on Thursday evening last, 27th August. The following members were present: Hon. and Rev. W. M. Webb (President) in the chair; Messrs. John Stockhausen, Charles McFarlane, W. N. Dougal, A. Norman Bernard, J. D. Brown, William Cunningham, John Dale, Hezekiah McFarlane, Richard Hall, Thomas Moreland, Thomas Urlkin, Uriah Roper, John Ricketts, James Campbell, Samuel Barnett, and Josiah Johnson, Secretary. The minutes of the last meeting, June 25th, were read and confirmed. The Secretary read a letter from Mr. E. Arnett, the local agricultural Instructor, in which he expressed his regret that he would be unable to attend the meeting as he would be away in the Claremont and Moneague districts. A letter from Mr. Barclay, the Secretary of the Parent Society, was also read, *re* the shooting of owls, and the destruction of birds in general; also eliciting the views of the members on what birds they have found to do damage to crops, and whether bird-life is increasing or decreasing in the locality. A discussion on the subject of Mr. Barclay's letter brought out the following facts:—(a) That there were no shooting of owls in these parts. (b) That the goldfinch does a great deal of damage to yam vines, the parroquet and jack-sparrow destroy corn, and the hawk destroys poultry. (c) That while the owl was a friend to the agriculturist by destroying rats, the above mentioned birds were harmful to agriculture. (d) That bird life was decreasing in this locality—especially the small birds, such as quits, etc., and it was thought that the catapult so frequently used by the boys was to a great extent, the cause of this decrease of bird life. The President of the Branch strongly urged the members to use their influence to stop boys from killing birds with the catapult. He now had six catapults taken from boys on his property, Woodlands. Mr. Stockhausen said he had ceased to sell the elastic used for making the catapults. The cotton venture having proved unsuccessful, owing in part to the recent drought and more particularly to the unsuitability of the land for cotton, on the motion of Mr. John Stockhausen, seconded by Mr. Thomas Moreland, it was unanimously agreed that we relinquish the tenancy of the land, and let the matter of cotton cultivation remain in abeyance for the present. The subject of preparing for a local agricultural show was brought up, and it was agreed that a special meeting be convened on September 4, to fully discuss the matter, as well as that of the judging in connection with the Prize Holdings Scheme, to which the attention of Branch Societies is called. At that meeting it is hoped the local Instructor, Mr. Arnett, will be present. *Appropos* to the Prize Holdings scheme, the President of the Branch said it was a pity so many of the small settlers had to depend on rent lands. No country can prosper on the tenancy system. He would like to see useless properties now in bush, owned by absentee proprietors, purchased by the Government and sold to the people on feasible terms—a kind of an extension of the Crown Lands Scheme. Mr. Samuel Barnett touched upon taxation which directly affected him and others. He asked the President if he could give him information as to why he and others have to pay separate taxes for separate holdings *in the same parish*. The President informed him that there is a law enabling taxpayers to unite holdings in the same parish, but he was sorry that the Law had increased the taxes. He would, however, seek further for information on the matter, and convey it to the members concerned at their next meeting. The items on the agenda being disposed of, the meeting adjourned.—JOSIAH JOHNSON, Secretary.

Fair Prospect.—At a meeting of this Branch, held on the 1st August, 1908, in the Government schoolroom, at 7 o'clock p.m., it was decided that a report should be sent to the parent Society for publication in the *JOURNAL*, to show that there is life still existing among a few of its members. There were present: Messrs. John Panton, Vice-president (in the chair), J. W. Munroe, Treasurer, John Burke, Albert Kelly, and D. S. Munroe, Assistant Secretary. The minutes of the last meeting were read and confirmed. A letter was received from the *Daily Telegraph*, asking this Society to raise some amount in connection with the erection of a statue in honour of the late Captain L. D. Baker. It was agreed by all present to hold a public meeting in accordance with this matter, so that the general community can attend, and so as to help on the work on a higher scale. The meeting came to a close with the Doxology.—D. S. MUNROE, Secretary.

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Newmarket.—This Branch held a meeting at its rooms on the 28th ult., the Instructor, Mr. Palache, presiding in the absence of the President. The following were present: Messrs. B. Thomas Atkinson, Edwin Thompson, H. A. Forde, S. U. Bogues, J. A. Wallace, C. H. O'Connor, R. B. Paygon, John B. Monteith, M. J. Chambers, Josiah Monteith, Edwin Clarke, and the Secretary. The minutes of the last meeting having been read and confirmed, Mr. J. A. Wallace, Show Secretary, was asked by the Chairman to give synopsis of the work done by the Show Committee. This report showed that satisfactory work has been achieved since the idea was put on foot. Mr. Palache then added a few words of advice relating to the duties and responsibilities of the members of a Show Committee. Mr. John A. Wallace then moved a resolution, seconded by Mr. B. T. Atkinson, *in re* the handling of agricultural produce for market. Mr. Palache spoke on the resolution, and he expressed his pleasure in noting that so important an idea occupied the mind of this Society. He cited a number of instances in which he emphasized the substance of the resolution in the several districts that he visited lately. After giving his ideas on the manufacture of "German Rum" that obtained in Jamaica in years gone by, and the result of this fraud, he diverted to pimento. "Beating and rubbing," said he, "not only destroy the essential quality of the produce, but constituted a loss to the extent of 40 lbs. per bag as compared with the method of "shelling." He strongly supported the resolution, which was carried *nem. con.* The Secretary read a letter from the Santa Cruz Branch, asking that the date of the Newmarket Show be altered, and was instructed to respond expressing regret in not being able to comply. A letter was read from the Secretary of the parent Society about birds. The subject will be discussed at our next meeting, as well as the jippi-jappa industry, which was brought up by Mr. Edwin Thompson. The meeting adjourned until the 18th September.—MILFORD A. HARVEY, Secretary.

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Warsop.—The second meeting for inaugurating a local branch of the Jamaica Agricultural Society in the district of Warsop, Trelawny, came off in the schoolroom on the 24th ult., when Mr. J. Barclay, Secretary of the parent Society, and Mr. E. Arnett, agricultural Instructor, were present. The Rev. Livingston presided. At the instance of the Chairman, Mr. Barclay addressed the meeting. Speaking at length, he tersely drove home to the hearers "What the Agricultural Society has done, is doing, and can do." Examples of the best working branches were given, and in a masterly way, the growth and cultivation of some of the crops suitable for the district—banana, coffee and cocoa were dealt with; the lecturer touching incidentally on the agriculture of some other lands which were now competitors. The work of the agricultural Instructors also received favourable comments. The "Treatment of domestic animals" was vividly brought to the meeting—what practices are wrong,

and what will enhance the market value of the animal reared. A number of questions were asked Mr. Barclay, and satisfactory answers were given. Thirty persons (the affiliating number) not being present to enrol as members, only the nucleus of a branch has been formed with the Rev. Livingston as President, Mr. T. Pinnock, Vice-president, Mr. I. Webster, Secretary, and Miss Napier, Treasurer. A vote of thanks was tendered the gentlemen for their efforts to form a local branch of the Society, and the meeting closed.—I. WEBSTER, Secretary.

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Porus.—The monthly meeting of this Branch was held in the Church of England Schoolroom on Friday, 14th August, 1908, S. A. Hendriks, Esq., President, in the chair. The minutes of the previous meeting were read and confirmed. The President said he was sorry to see only fourteen members present. The first business was Mr. W. A. Morgan's scheme *re* exporting of early fruit, which, after short discussion, it was decided to let the matter lie over till the next meeting, when a fuller house is expected. A letter from the Director of Agriculture was read *re* the supply of jippi-jappa plants; it was decided to get some. A letter from the *Jamaica Times* Office was read *re* the offer by Mr. Holland for prize £2 2s. for the best statement of accounts by small settlers, showing best results. The Rev. Mr. Cass was asked to give some information on jippi-jappa plants of which he has some experience. It was moved by Mr. Cass, seconded by Mr. McPherson, that the members co-operate and send through the Secretary for plants. The Secretary was instructed to write the Director of Agriculture about getting new varieties of cassava. It was resolved to instruct the Committee to draw up the revised rules that they could be printed. It was decided that in future the Secretary put on the table all accounts in connection with the Society, and that at the next meeting the Secretary put a statement of the financial expenditure of the Society before the meeting. Mr. J. T. Palache, the Instructor, came to the district, but as there was some misunderstanding about the hour, he left before the members assembled, but promised to come back for the next meeting the time of which he is to be advised. The next meeting is to be held on Monday, 7th instant. * *

Springfield, St. Elizabeth.—The regular meeting of this Branch was held on the 27th ult. The following members were present: Rev. J. Craig (chairman), Messrs. J. T. Palache (Instructor), J. Shaw, Tom Smith, W. Pitter, Charles Hitchman, Stephen Stewart, Amos Coke, Jas. Poyser, M. J. Chambers (Treasurer), Alfred Black, Charles Scarlett, and B. Thomas Atkinson (Secretary). There were also present as visitors: Misses Witter and Campbell, Messrs. A. Stewart, Augustus Lynch and E. Barrett; the two last named subsequently became members. The minutes of the previous meeting were read and confirmed. Two letters from Mr. Barclay were read; one on Association matters, and the other on "Birds." The latter came up for discussion, and it was the opinion that owls should be protected, they being the friends of the agriculturists. On the other hand it was pointed out that the Markfinch (yam cutter) and the Black Sparrow were destructive to seeds and should be destroyed. The members expressed their desire to have their JOURNALS, and the Secretary was instructed to write Mr. Barclay. It was moved and seconded, that the meeting place on record its sympathy with the relatives and friends of Mr. E. J. Barry of Black River, who died on the 14th ult., and who was a member here, and had taken an active part in settling the rules, and naming the Society. It was also moved by the Chairman and seconded by the Secretary, that the Post-Master General be approached with a view of having the Post Office at Springfield connected with Ipswich. Mr. Palache then proceeded to give one of those lectures for which he is famous. This time it was on coffee. He showed the prominent place coffee holds among our industries; pointing out also that

nothing can be substituted for it. But it wants more care, more attention, more co-operation in working up the industry, combination in erecting machines for the proper preparation where it is necessary. We also need to acquire a knowledge of agriculture, then put that in practice. With instructions such as we are having, satisfying the wants of the present worn-out conditions of the land, we should have large gatherings at our meetings seeking knowledge, but unfortunately they can't see the necessity. The district of Springfield is a very large one and well settled; with great possibilities agriculturally, almost anything will grow and give good returns. The pimento has given a good crop, while the coffee seems to rest this year. The altitude makes the climate very healthy and enjoyable, and the regular rainfall keeps the plants verdant. It is only a pity that the roads, especially going down Woodlands, are left to take care of themselves.—B. THOS. ATKINSON, Secretary.

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Sav-la-Mar.—At the quarterly meeting of this Branch held at the usual place on Friday, August 21, there were present: Mr. J. W. Mennell and Dr. H. Robins, Vice-presidents, Messrs. H. D. D. Mennell, S. A. Stewart, R. Ritchie, B. A. Kirkham, A. Fisher, B. H. Segre, S. D. Parkinson, and A. W. Levy, Secretary. Mr. J. W. Mennell took the chair, and the minutes of the previous quarterly meeting were read and confirmed. The Secretary reported that the jippi-jappa class had been discontinued as decided on, and the remainder of the straw sold at cost. There was nothing in hand to refund advances made for starting the class. The Secretary read a letter from the President, C. P. Bovell, Esq., resigning his position on the ground of ill health. It was unanimously agreed that the President be asked to reconsider his decision, and take six months' leave of absence, and that the senior Vice-president, J. W. Mennell, Esq., do act as President during that time. The question of holding a show in January 1909, next came up for discussion. It was pointed out that the show grants had been restored, so that the prospects of success on the financial side would be so much brighter than on the last occasion. It was eventually decided that the Secretary should write to Mr. Barclay that the Branch was expecting to hold a show, but a good deal would depend on their obtaining a grant; also to write to P. Haughton James, Esq., requesting permission to use the grounds at Paradise. A circular was drafted, calling on the leading gentlemen of the parish, and others who had shown an interest in the past shows, for their financial support and their co-operation; one hundred copies of this circular to be printed and distributed without delay. September 25th was fixed as the date of the next meeting. Revision of prize list to be done beforehand and confirmed or amended then. The Rev. A. G. Kirkham, and Messrs. A. W. Alcock, D. C. Goodin, R. Meylor, J. D. White and George Miller, were elected members. The Secretary read a letter from Mr. Barclay with reference to the shooting of owls as enemies to agriculture, and asking for opinions of members as to damage done to crops by birds, and the condition of bird life generally. In the experience of members present, owls were never shot. The only instance of damage to crops quoted was, that the goldfinch cuts off the tops of yam sprouts. Bird life on the whole seems to be on the decrease; this was due in a great measure to the extension of agriculture, the birds being deprived of their covers by the clearing of the woodland. Quail had been practically exterminated by the mongoose; blue pigeons and baldpates were scarce, while only black-birds seemed to be increasing.—A. W. LEVY, Secretary.

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Cedar Valley.—On Thursday, 20th August, what seemed likely to be a very successful meeting, was almost washed away by a heavy downpour of rain, beginning just about half an hour before the time fixed on for the meeting. J. Hirst, Esq., had arranged to visit the Cedar Valley Branch

(St. Catherine) on the 20th August. He arrived at about 2 p.m., during which time it was raining very heavily. This ceased at about 5 p.m., but the evening was so damp that only about a dozen gentlemen made their appearance. The Chairman after a brief speech introduced Mr. Hirst. The latter gentleman said in part, he was glad an Agricultural Society was formed at Cedar Valley. He would impress on the members that they try to keep in front and not in the back. To do this it depended mostly on themselves. The Branch formed is not a charitable institution, where doles are to be served out. The members would benefit according to the amount of support they gave. They would need therefore to stand together and work in unison. We lived in an age of keen competition, the planter must therefore know as much as possible about his work; the curing of his crops was especially an important item to learn more about. The gathering and curing of pimento was extensively dealt with. At the close of the address a few questions were asked, and the answers gave satisfaction. The President moved a vote of thanks to Mr. Hirst, which was seconded by teacher A. Stewart.—R. CAMPBELL CLARKE, Secretary.

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Darliston.—The quarterly meeting of this Branch was held at the Enfield school-house on the 17th July. There were present: John W. Menzell, Esq., President, Mr. H. D. D. Menzell, agricultural Instructor, Captain Coward and Mr. W. J. H. Cooke, Vice-presidents, Messrs. J. W. Philip, Fred. R. Bailey, James Levy, Anthony Levy, G. Scott, C. Cooke, Alfred Spence, James Stewart, Charles Spence, J. A. Crooks, R. W. Smith, D. E. Thompson, Miss A. Godfrey (Instructress jippi-jappa hat industry), and ten of her pupils; also three other visitors and the Secretary. The minutes of the last meetings held on the 10th April, and on the 16th May, were read and confirmed. Moved by the Secretary and seconded by Mr. W. J. H. Cooke, that Mr. R. W. Smith be elected Treasurer. Moved by Mr. Fred. R. Bailey and seconded by Mr. Anthony Levy, that Mr. Alfred Spence be elected Treasurer. Mr. Smith having got the greater number of votes, was elected Treasurer. The agricultural Instructor read a letter written 9/3/'08 on rats. The President spoke very strongly on the subject, as well as several members. Mr. Philip said the best remedy is to keep cats." The meeting then discussed the rat plague, and the members present said that they would do what they could to assist to check the evil. Moved by Mr. Fred. R. Bailey, seconded by Mr. J. W. Philip, and carried by all the members present, (except Messrs. Thompson and Hedley), That this Branch does express and record its satisfaction at learning by the newspapers that the Hon. Legislative Council has passed the prædial larceny law in its present form; thus throwing the onus upon the possessor of suspicious articles." The Secretary announced that the Instructor's term terminates on the 27th instant. The Instructress shewed ten hats made by the pupils. They were examined by the members present and were highly commended. The agricultural Instructor spoke earnestly to the pupils present, touching the jippi-jappa hat manufacture. The following resolution was moved by Mr. R. W. Smith, seconded by Mr. D. E. Thompson and carried: "That this Branch of the Agricultural Society does offer its thanks to R. A. Anderson and J. R. Williams, Esqrs., for their kindness, each, in giving a room free for the use of the class learning the manufacture of jippi-jappa hats at Darliston, and at Enfield." Moved by the Secretary, J. H. Hedley, seconded by Captain Coward, and carried by acclamation: "That this meeting desires to express its satisfaction in the work done by Miss Agnes Godfrey in teaching the jippi-jappa hat manufacture in the districts of Darliston and Enfield, and as her engagement is nearly completed, the Branch wishes her every success in her future career." After the election of Messrs. James Stothert and J. W. Bucknor, the meeting adjourned to Friday, 16th October at 9 a.m., at the Enfield schoolroom.—J. H. HEDLEY, Secretary.

Bull Head.—At a meeting of this Branch held at Mt. Carmel, on Wednesday, August 12, there were only seventeen members present, the heavy rains which fell in the afternoon having prevented the attendance of many from the neighbouring districts. Mr. Hirst, the agricultural Instructor for Clarendon and St. Catherine, was present. The Secretary stated that since last meeting two gentlemen, Mr. Simpson, dispenser at Croft's Hill, and Mr. W. B. Hannan, had joined the Society. Mr. Simpson, who was present, said he was willing to help in every possible way to further the interest of the Society. A letter from the general Secretary *re* the jippi-jappa hat industry, was read, Mr. Hirst making full comments on the most important points therein. He said that the members of this Society could all grow the jippi-jappa plant, as they all had the locality in the form of waste land in gullies, and near streams, which was specially suited to its growth. He thought it might be possible to obtain the suckers for planting, from Mr. Davis at Mears Pen. Arrangements may be made, he said, to procure for this parish, the services of a competent instructor, who could be employed by each Branch Society. The members who at the last meeting were appointed to open the discussion on "How to improve the future of the Bull Head District," and on "Stock Rearing," were absent. On the latter subject, however, Mr. Hirst addressed the meeting at length, giving most useful information and helpful suggestions. He said that in many districts the breed of goats was deteriorating, and that was due chiefly to the careless habit of in-breeding. Even in the case of many other stock, this was to a great extent, the cause of the degeneracy in both size and the quality of their breed. Stock breeders, especially among small settlers, should be more careful to introduce entirely new blood. At this point, Mr. Simpson asked if the ram imported some time ago, to improve the breed of goats, could now be had. Mr. Hirst said he thought it could, and fuller information on that point could be had from the Secretary, Mr. John Barclay. The Instructor made brief and interesting remarks on the cultivation of banana and cocoa. He said that in Upper Clarendon, where the soil was specially adapted to the cultivation of cocoa, if better attention was paid to proper methods of planting, curing, pruning, etc., there would be far better yields, and more satisfactory results in crops. In conclusion, he said, he would ask the members all to support the Society, as it was the means of stirring in themselves, a greater interest in their work of procuring for them the best information on many important subjects, and of guiding them in the application of proper methods and right principles of agriculture. The Chairman moved for Mr. Hirst, a hearty vote of thanks which was warmly accorded. A few minor matters were dealt with, and the meeting which was a very profitable one, was adjourned until the 9th proximo.—E. ALEX. TOMLINSON, Secretary.

N.B.—The falling of a few refreshing showers since last week, has greatly interrupted the continuous drought, brought new life to the plants, and revived the hopes of the planters. Ground provisions are scarce. No one here has any recollection of a time when there was such a scarcity of food, at least in this district. In cases of prædial larceny, it is pleasing to say that this district has almost a clean record.

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St. Thomas-ye-Vale.—The first regular meeting of this Branch was held at Bog Walk, on Wednesday, the 19th ult. There were present: J. H. McPhail, Esq., President, Mr. J. H. E. Hemans, Vice-president, the Secretary and twenty ordinary members. Revs. J. W. Graham and W. C. Bennett, and Messrs. R. T. Rigg, Charles Gardner, E. A. McNeil, W. R. Grant, Robert Brairy, Thomas Walsh, A. Williams, and Joseph Fuller became members. The meeting considered a set of rules, during which the Rev. J. W. Graham was elected a Vice-president, and a Managing Committee elected according to rule 2. The rules were adopted.

An address by the Rev. Graham formed one of the features of the meeting. He alluded to the fact that an improved system of cultivating was gradually taking hold of the people of the Island, and urged his hearers to aim at the highest point. A hearty discussion followed on trenching and drainage, led by Mr. Hirst with blackboard demonstration. Mr. Hirst visited several cultivations of members on Thursday and Friday, and also held a meeting at Cedar Valley on Thursday. It is gratifying to note how much interest is being taken in this new Society. The members seem very anxious to get their JOURNALS, and the Secretary is constantly kept busy explaining and answering questions relating to the Society. Constant and regular rains are coming and vegetation is looking at its best. Four thousand three hundred stems of bananas were shipped from Bog Walk during last week.—G. R. PALMER, Secretary.

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St. John's.—A meeting of this Branch was held at Kitson Town, on the 22nd August at 4 p.m. After the minutes were read and confirmed, the Secretary gave notice that at the next meeting he would move that the day of meeting be changed from Saturday to any other day. Letters were read from Mr. Barclay, one of which asked for information about birds, e.g., whether birds were increasing or decreasing in this district, etc. The Secretary was instructed to reply, that birds which feed on the ground were decreasing, while those that do not were increasing. The birds which do the greatest damage to crops, are Goldfinch, Blacksparrows and Peadoves. Quail and wild guinea fowls are annihilated. The Secretary informed the meeting that he was asked by Mr. Anderson, one of the members, to introduce the Penny Bank scheme. He was sorry Mr. Anderson was unable to attend. He was in sympathy with the scheme, and would be glad to deposit his pennies whenever possible. All were in thorough accord with the Penny Bank scheme. Mr. Banton moved, that a committee consisting of Messrs. Hendriks, McBean, Anderson, Farquharson, Wilson and himself, be formed for the purpose of examining matters thoroughly and report at the next meeting when it is hoped that the Bank will be started. The following resolutions were unanimously carried:—(1) "That this Society learns that two letters as well as resolutions passed at a recent meeting of this Branch Society, had been forwarded to the Parochial Board, suggesting schemes whereby the members pledged themselves to co-operate with the Board, by means of which the ponds at Aylmers and Belmont respectively, could be immediately cleaned and up to the present no reply had been received by the Secretary. *Resolved* that the Board be respectfully asked to say which of the schemes they have agreed on (a) whether they intend to divide the ponds in two, and clean one half, while the people clean the other; or (b) whether they have decided that the people should work until the ponds are finished, when they (the people) will be paid for one-half of the time they work, because this pronouncement will cause the ponds to be cleaned speedily, as this Society will be able to give certain information to the people. (2) This Society begs that the walls of the tank at Kitson Town which the members learn will be raised, as well as a pump erected, be taken in hand immediately for the rainy season is fast approaching. Messrs. M. Richardson, Charles Wright, R. Fuller and Dillon of Page Mountain, were elected new members. The following resolution was also unanimously carried: "This Society begs to place on record its high appreciation of the work that has been done by Mr. John Barclay, the General Secretary of the Jamaica Agricultural Society." It was agreed that a copy of the resolution should be forwarded to Mr. Barclay; also that he should transmit another copy sent from this Branch to the parent Society. Note—This week was very hot and dry, but yesterday, 23rd, we had heavy rains in the evening. There is a great scarcity of food. Precious little is to be seen in our market (Bamboo). Our mango crop is something of the past already.—S. A. BANTON, Secretary.

Smithville.—A general meeting of this Branch was held on August 3, at twelve noon. The Secretary having left the district and the acting Secretary being absent, the President acted as Secretary. The minutes of the last meeting were read. Twenty members were present, and seven visitors and the Instructor, Mr. J. Hirst. Mr. Hirst was cordially received, and gave a short address touching on the progress that had been made since the Agricultural Society had been formed and the increase of the Branch Societies, and he urged this local Branch not to be behind any. A large membership was not to be aimed at, especially members who would keep in touch with the meetings. Mr. Hirst touched on the banana and cacao industry, and drew particular attention to the improvements necessary to be made to make coffee worth while keeping on the land. He also touched on the Prize Holdings Competition. Many questions were asked. Messrs. R. J. Reed, G. Douglas, J. Pearson, S. McLymont, A. Russell, E. Palmer and T. Clarke, expressed thanks to Mr. Hirst for his instruction. No rain fell from June 4th to August 4th, but since we have had blessed showers. Cacao is blossoming heavily, but not many blossoms are holding. The coffee crop will be poor this year. Foodstuffs are very scarce, and owing to the amount of stealing we hardly know what to do.—W. F. REED, President.

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Cambridge.—A meeting of this Branch was held on Thursday, the 20th August. There were present:—Rev. S. T. A. Jones, President, Messrs. W. Johnson and R. Nelson, Vice-presidents, Messrs. C. M. Anderson, E. E. Dickens, D. Robinson, D. R. C. Robinson, D. Gordon, Miss M. A. Dickens, and the Secretary. After the reading and confirmation of the minutes, a lively discussion on the minutes of last meeting *re* "the increase and depredations of rats" took place. Mr. Anderson, who began the discussion, thought that rat virus by Messrs. Evans, Son & Co., Ltd., should be admitted free of duty, and moved the following resolution: "That this Society do agree with Messrs. Evans, Son & Co., Ltd., that as the rat virus is a bacteriological product, and not of the nature of a poison similar to phosphoric arsenic, should be allowed to land duty free, and that the parent Society do bring this matter before the Parochial Boards of the Island, asking them for their support in bringing the matter before the Government, they being responsible for the health of men and communities, and as the virus being an anti-bubonicide (as I may call it) and not exactly a rat poison, would be a great preventive to the spread of the plague, just as Vaccine Lymph is against smallpox." This was not seconded, the members being of opinion that it was unnecessary as the Government had already taken steps to have prepared a virus for the destruction of rats. The state of the roads of the district was next brought to the notice of the meeting, and the necessity for converting one of the bridle roads into a cart road was warmly considered. After much had been said in favour of the desired cart road, the President, in a forcible manner, pointed out that without such a change there cannot be that real agricultural improvement and prosperity which all so much desire. Mr. Johnson then suggested that the Parochial Board be again petitioned *re* a cart road. As an amendment to this suggestion the Secretary moved—"That as it is not a very long time since the Parochial Board was approached by the inhabitants here praying for a cart road, a well worded letter be written to the Board calling attention to the petition, and that this letter be signed by the President, Vice-presidents and Secretary in behalf of this Branch." This was seconded by Mr. Anderson, and agreed to unanimously. A letter from Mr. Briscoe, Travelling Instructor, stating his intention of visiting the district during week ending 29th inst. was read. The Branch promised to meet and accord Mr. Briscoe a hearty welcome after his furlough in the mother country.—R. A. CLARK, Secretary.

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No. 10.

BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 11 North Parade, on 17th September. Present:—Hon. H. H. Cousins, Deputy Chairman, presiding; His Lordship Bishop Collins, Hons. L. J. Bertram, R. P. Simmonds, Messrs. D. Campbell, E. W. Muirhead, A. W. Douet, Joseph Shore, and the Secretary, John Barclay, Esq.

His Excellency the Governor advised that he could not be present as he had to meet a deputation at Mandeville the same day.

Dr. Pringle advised that he would be away from the Island for some time, and requested leave of absence from his duties as Vice-president for three months. His Excellency the Governor had granted this.

Matters arising out of Minutes:—
(a) Cotton Conference. The Secretary read a report forwarded from the C. S. O. from Mr. Conrad Watson, whom the Governor had appointed the representative of the Society at the Cotton Conference held in Man-

chester, as follows:—

I have the honour to forward for Your Excellency's information, a statement of the result of such discussions at the Cotton Conference, at Manchester, as I consider will effect the future of the industry.

1. The conference was a great success, enabling the grower to learn the requirements of the spinner, and to disabuse the mind of the spinner of the idea that the cultivation of cotton is easy, and that it can be produced at a very low figure.

2. The spinner now understands that the cost of cultivating cotton varies from £8 to £10 per acre, and that except the yields per acre can be very much increased, cotton cannot be grown at a profit for less than 13s. 6d. per pound.

3. It was advised that the quality of the cotton generally grown in the West Indies, the type commonly called "Bread and Butter Cotton," should be improved in strength rather than in length and fineness of staple, the demand for very fine cotton being small.

4. The growers obtained some confidence in the future of the industry being assured, that although some cotton remained unsold and there was no great demand at present, it could not be attributed to over production in the proper sense, but was due to the depression in trade which had affected other products in a most marked degree.

5. The British Cotton Growing Association offered to deal with cotton consigned to its care for one per cent. commission, brokerage included, and to purchase and ship stores at 2 per cent., charging interest on cash advanced for such purpose.

6. Sir Alfred Jones with his usual generosity, offered to any Jamaica cotton, freight free for one year.

It was clear to all that the West Indies will stop growing cotton when it ceases to be remunerative, and as this would throw the spinner on the American market, too low a price for cotton would prove to the disadvantage of both the West Indian grower and the spinner.

The kind reception met with by the delegates, and the hospitality shown them was much appreciated.

(b) **Rubber Exhibition.** The Secretary presented the following memo:—
“I beg to report that I have been unable to get a suitable exhibit of *Castilleja* Rubber for the Rubber Exhibition to be held in London; and the Milk Withe Rubber sent in has not been put up in presentable shape for an exhibit.

“I have also learnt from the Director of Agriculture that he had not sent any exhibit either, so Jamaica will not be represented.”

(c) **Judging Prize Holdings.** The Secretary submitted the views of the Instructors on the subject, and said he had not received the opinions of all the Branch Societies yet, but the subject was being discussed. It was generally agreed that Mr. Cradwick would be the most acceptable man in every direction, but in view of his absence on leave, and of a possible extension of his leave through ill-health, his services need not be considered. It was decided therefore that Mr. Arnett should do the work of judging. The Secretary pointed out that this would involve Mr. Arnett being away from his district for at least two months, and that there would not be money available from the Society's allocation to pay the amount for travelling expenses necessary.

The Chairman said that he could probably arrange for Mr. Cradwick's lapsed travelling allowance to be transferred for this purpose. This was considered satisfactory.

(d) **Rat Virus—Azoa.** The Secretary said he had been sent a box of Azoa by Parke, Davis & Co. for experiment, and would be glad to let members of the Board have samples.

The Chairman said that this preparation like other makes of Virus, did not appear to act here.

(e) **Bulls.** The Secretary read the Veterinary Surgeon's report on the red shorthorn bull as received in Kingston, which had been already submitted to the Live Stock Committee. He had the bull in the yard for the members to see for themselves; the animal had greatly improved during the three weeks it had been in town. The Director of Agriculture suggested that instead of being sold, this bull might be sent to Hope where he expected to start a Farm School, and it could stand for service there for the use of dairy cows in St. Andrew, for say a small fee of 5s., so that it would be patronised. After some discussion, this was agreed to.

The Secretary was instructed to bring the roan bull from Brown's Town to Kingston for sale as soon as possible.

Stallion. As regards the stallion, the Secretary stated that at the last meeting it had been decided not to sell him, but as a representative of the Company who wished to make the purchase was coming here in October, in case of disappointment, he would submit a red chestnut horse colt by "Sir Gerald," aged 4 years, height 14.1, girth 63 inches, below knee 8 inches full, belonging to Dr. Dewar, and which Mr. Arnett reported to be a very fine animal, and he had seen a filly colt got by this stallion, of most excellent quality.

(f) **Drought in St. Elizabeth.** The Secretary reported that the £10 allowed by the Society to provide seeds and plants in the drought districts of St. Elizabeth, had run out with some pressing wants still unfulfilled, and Mr. Palache had asked if he could get a further grant. Having no funds the Secretary applied to the Governor, and His Excellency had sent him his personal cheque for £5 which had served the purpose.

(g) **List of Planters.** The Secretary submitted a letter he had received from the Secretary of the W. I. Committee, asking if he would from time to time supply him with a list of planters and penkeepers, etc., who would be willing to take pupils, their terms, and the conditions prevailing, etc. He had written the Secretary of the Institute of Jamaica and the Secretary of the Merchants' Exchange so that there might be no duplication in this work, and both agreed that he should take up the matter. It would necessitate a very small expenditure in printing a list, and he asked leave to incur this if necessary. This was authorised.

(h) **Funds late Clarendon Agricultural Association.** The Secretary said that the amount of £24 3s. 10d. had now been paid into the Colonial Bank to the Society's account, and the matter of utilising this as before arranged was now in hand.

(i) **White Scale.** The Secretary submitted two further letters on White Scale, calling attention to the great damage to citrus trees in Manchester by this scale, and stating that as far as could be gathered no attempt had been made to save the trees, that nobody seemed to know what steps to take.

The Secretary said that the matter had been brought up a year ago and discussed by the Board, when he was directed to publish the recipe for making the Lime, Sulphur and Salt Wash, together with articles, giving some experiences of owners of groves in using this wash. This had been done. Owners of pasture trees seemed to think their trees were not worth spending money on to save, but it was well within the means of small settlers to save their trees. He was directed to draw the Instructors' attention to this matter, and to communicate with the various Branch Societies, especially in the orange-growing districts, calling their attention to the trouble and the remedy.

The following letters from C. S. O. were submitted (a) No. S. S. 8891—Price of Sea Island Cotton, advising that the Secretary

of State would in future discontinue the supply of periodical statements showing the approximate value per pound of raw cotton, owing to the constant variations in the value and the impossibility of fixing approximate valuations for statistical purposes.

(b) No. 9179/10651—Advising that the Governor had granted Mr. J. C. Nolan, Special Commissioner under the Jamaica Rum Protection Law, leave to proceed to Jamaica in the month of October next.

Election of Member. Mr. Muirhead said that as they had to elect a member in place of the late Mr. R. A. Walcott, he thought it would be fitting for the Board to express their deep sense of the loss they felt in the death of Mr. Walcott who had been so long a valued member of the Board. He moved that an expression of their deep feeling of regret should be minuted and sent to Mrs. Walcott. Mr. D. Campbell seconded, and it was unanimously agreed to.

The names of the following members were submitted : Captain Eves, Arntully, St. Thomas-in-the-East (which parish was not represented on the Board), and Mr. E. A. H. Haggart, Kingston, for the election of one member in the room of the late Mr. Walcott. Mr. Bertram proposed Captain Eves, seconded by Mr. Shore. Mr. Muirhead proposed Mr. Haggart seconded by Mr. Simmonds, and on being put to the vote, Mr. Haggart was elected by 4 votes to 3.

The Election of Committees. The election of Committees was then taken up. The existing Committees were allowed to stand with the addition of Mr. Haggart to the Staple and Minor Products, Exhibitions, and Finance Committees ; Mr. A. C. L. Martin to the Staple and Minor Products, and Mr. Douet to the Shows Committee.

Resolution re Produce Shipped. A resolution from the Newmarket Branch *re* the quality of produce for export bought and shipped was submitted, asking the parent Society to get an expression of public opinion as to how to remedy this, and calling the Society to recommend legislation to the Governor to prevent poor produce from being sold.

The Secretary was instructed to take the necessary steps to get the information asked for, and also to inform the Branch that they could not propose at present to ask for further legislation *re* the Produce Protection Law.

Resolution re Side Drains. The Secretary submitted a resolution from the Glengoffe Branch as follows :—“ In view of the damage caused in this neighbourhood by the cutting of side drains on the parochial roads into cultivated lands, this Branch respectfully asks the parent Society to make such representation to the Government as will prevent a repetition of these damages through the action of irresponsible persons.”

The Secretary said in explanation, that the road overseers did not always choose the best place to run these side drains, and often put them in places where they would destroy valuable trees; the Glengoffe Branch complained that in several of their members' places valuable cocoa trees had been damaged in this way. No fewer than five side-drains had been run into one field.

The Secretary was instructed to call the attention of the Parochial Board and the Public Works Department to this, so that the road headmen should be warned to use more care and discretion in this matter.

Mr. Campbell said that when damage was done by side drains to a property, he had always found that the damage was paid for by the Superintendent of the Roads, and he thought the Glengoffe people might ask for compensation.

The Secretary was instructed to enquire whether the Branch had done this.

Grants to Show. The Newmarket Branch applied for a grant to their show to be held on 9th November. The Secretary stated that the rules had been so far fulfilled, that the draft prize list had been submitted for his revision. The usual grant was allocated, provided all the further rules governing grants to shows were fulfilled.

Applications for Affiliation. Applications for affiliation were made by the Castleton and Metcalfe Agricultural Societies, and the rules for affiliation having been conformed to, affiliation was granted.

Instructors' Reports and Itineraries were submitted. The Secretary said Mr. Men- nel had sent him a Doctor's certificate for a week's enforced absence through illness.

The following new members were elected :—T. G. Simms, Moneague; W. Gauntlett, Linstead; J. M. Francis, Troja; A. E. Highway, Barranquilla, Colombia.

The meeting adjourned until Wednesday, 21st October, 1908.

THE IVEL AGRICULTURAL MOTOR.

An illustrated catalogue of this most useful implement has been referred to us. This motor costs about £300 and some extras—such as for a sun-shade for tropical climates. It can haul a three-furrow plough (i.e., making three furrows at a time) on medium soil to a depth of 7 inches, and is able to plough about 6 acres in 9 hours at the cost of £1 7s. 2d. Its motive power can be used for many other useful purposes, making home-made ice, pumping water, etc.

It is already in use in all parts of the world, and is made by the Ivel Agricultural Motors, Ltd., 45 Marlborough St., London, W.

SEEDLING CANES.

MT. EAGLE VARIETAL CANES, 1905.

No.	Name of Cane.	Cane—Tons per acre.	Tops per acre.	Pounds rotten cane per acre.	Juice o/o by Mill.	Sp. Gr. $\frac{30^{\circ}}{16.6^{\circ}} \text{C.}$	Degrees Brix.	Pounds per Imperial Gallon at 30dg. C.				Glucose Ratio.	Purity.	Sucrose—lbs. per acre in Juice.
								Sucrose.	Glucose.	Non-Sugars.	Total Solids.			
1	B. 208	42.1	...	...	73.8	1.0656	16.95	1.537	0.096	...	1.807	6.31	85.06	9.102
2	Jamaica Canes	32.5	...	...	72.8	1.0763	18.00	1.724	0.058	...	1.927	3.30	89.04	8.536
3	B. 147	37.0	...	...	73.4	1.0591	15.45	1.328	0.104	...	1.637	6.02	81.12	7.880

The crushing of this mill is exceptionally high, due to the good feeding and the assistance of two trash turners who were constantly employed. The Manager thinks that the B. 208 is an excellent cane, and one that might be tried on a more extensive scale in Westmoreland than hitherto. These results, he thinks, would have even been better had the rows been further apart, as many of the canes had rotted.

LONG POND VARIETAL CANES, 1906.

No.	Name of Cane.	Cane—Tons per acre.	Tops per acre.	Pounds rotten cane per acre.	Juice o/o by Mill.	Sp. Gr. $\frac{30^{\circ}}{16.6^{\circ}} \text{C.}$	Degrees Brix.	Pounds per Imperial Gallon at 30° C.				Glucose Ratio.	Purity.	Sucrose—lbs. per acre in Juice.
								Sucrose.	Glucose.	Non-Sugars.	Total Solids.			
1	B. 147	31.3	...	...	67.3	1.0707	18.10	1.641	0.101	...	1.938	6.1	84.8	7.1895
2	D. 95	26.1	...	...	69.6	1.0694	17.80	1.641	0.089	...	1.904	5.4	86.0	6.0244
3	B. 208	26.6	...	...	61.5	1.0738	18.80	1.771	0.046	...	2.019	2.6	87.7	6.0444
4	Wt. Transparent	28.3	...	...	65.0	1.0642	16.05	1.514	0.099	...	1.772	6.5	85.4	5.0863
5	Striped Ribbon	21.0	...	...	65.0	1.0656	16.95	1.563	0.111	...	1.806	7.1	86.5	4.0485
6	D. 116	23.5	...	...	65.6	1.0626	13.90	9.094	0.194	...	1.463	19.5	67.9	3.0261

B. 147 here gives a gain of 10.3 tons of cane or 48 per cent. over the Ribbon or estate cane, Mr. Taylor, the Attorney, speaks in high terms of the merit of this cane.

CINNAMON HILL, 1906.

No.	Name of Cane.	Cane—Tons per acre.	Tops per acre.	Pounds rotten cane per acre.	Juice o/o by Mill.	Sp. Gr. 30° C. $\frac{16.6}{C}$.	Degrees Brix.	Pounds per Imperial Gallon at 30° C.				Glucose Ratio.	Purity.	Sucrose—lbs. per acre in Juice.
								Sucrose.	Glucose.	Non-Sugars.	Total Solids			
1	D. 1438	44.1	..	..	65.5	1.0800	20.2	1.902	0.072	0.208	2.182	3.78	87.1	11.395
2	D. 109	42.7	..	..	68.6	1.0707	18.2	16.010	0.117	0.123	1.950	7.20	84.6	9.826
3	B. 208	30.8	..	..	67.6	1.0844	21.2	2.006	0.088	0.215	2.299	4.38	87.2	8.628
4	B. 147	31.5	..	..	68.8	1.0778	19.7	1.860	0.072	0.191	2.123	3.87	87.7	8.378
5	Estate Cane	29.9	..	..	66.5	1.0756	19.2	1.771	.067	0.227	2.065	3.78	85.7	5.862
6	D. 754	24.6	..	..	74.0	1.0389	15.4	1.118	0.333	0.110	1.631	2.81	72.1	5.577

D. 1438 has done exceptionally well here, giving a gain of 19.5 tons or over 79 per cent. The advantage of this cane as compared with the estate cane under these conditions, and the possible value to the Sugar Industry is obvious.

MONA ESTATE, 1906.

No.	Name of Cane.	Cane—Tons per acre.	Tops per acre.	Pounds rotten cane per acre.	Juice o/o by Mill.	Sp. Gr. 30° C. $\frac{16.6}{C}$.	Degrees Brix.	Pounds per Imperial Gallon at 30° C.				Glucose Ratio	Purity.	Sucrose—lbs. per acre in Juice.
								Sucrose.	Glucose.	Non-Sugars.	Total Solids			
1	B. 208	18.7	4.1	..	61.8	1.0834	20.9	2.037	0.048	0.178	2.263	2.3	90.0	4.880
2	C. Queen	16.2	4.1	..	58.2	1.0702	17.9	1.672	0.098	0.145	1.915	5.9	87.3	3.330
3	Mt. Transparent	14.6	7.4	..	63.5	1.0741	18.8	1.704	0.119	0.196	2.019	6.9	84.4	3.371
4	Black Cane	10.2	2.2	..	57.0	1.0662	17.0	1.438	0.208	0.166	1.812	14.4	79.1	1.781

B. 208 gives a gain of 8.5 tons of cane or 83 per cent. These results are taken from ratoon canes.

BLUE CASTLE, 1906.

No.	Name of Cane.	Cane—Tons per acre.	Tops per acre.	Pounds rotten cane per acre.	Juice o/o by Mill.	Sp. G. $\frac{16.6}{30^{\circ}C}$.	Degrees Brix.	Pounds per Imperial Gallon at 30° C.				Glucose Ratio.	Purity.	Sucrose—lbs. per acre in Juice.
								Sucrose.	Glucose.	Non-Sugars.	Total solids.			
1	B. 208	53.2	..	..	71.7	1.0715	18.02	1.625	0.020	0.125	1.950	12.3	83.04	12.958
2	D. 116	51.8	..	..	68.2	1.0693	17.07	1.640	0.150	0.093	1.892	9.7	80.07	12.137
3	D. 95	48.1	..	..	69.6	1.0702	17.09	1.615	0.163	0.137	1.915	10.0	84.33	11.317
4	B. 147	53.0	..	..	69.2	1.0688	17.65	1.443	0.202	0.145	1.890	20.2	76.07	11.092
5	D. 1438	47.2	..	..	67.3	1.0653	16.85	1.380	0.265	0.144	1.789	19.2	77.13	9.218
6	D. 115	45.1	..	..	69.4	1.0631	16.03	1.232	0.033	0.170	1.732	26.7	71.02	8.125
7	Estate	27.3	..	..	70.4	1.0732	18.06	1.677	0.167	0.151	1.995	9.9	83.02	6.852
8	D. 132	41.5	..	..	65.4	1.0576	15.05	1.120	0.369	0.157	1.586	27.6	70.08	6.438
9	S. Seedlings	49.4	..	..	70.6	1.0542	14.03	0.085	0.048	0.366	1.496	56.4	56.09	6.299
10	D. 1380	38.0	..	..	64.2	1.0576	15.00	1.015	0.327	0.109	1.586	20.8	72.05	5.942

These results are striking. The canes B. 208 and B. 147 giving 53.2 and 53.0 tons of cane per acre, while the estate cane gave but 27.3. The percentage of gain is about 93 per cent.

1907.

FONTABELLE.—*Varietal Experiment*.—Two sets of varietal experiments were conducted at Fontabelle Estate, one with plants, and the other with ratoons. The following canes were taken off in the experiment with plants :—B. 208, D. 625, the Estate or Ribbon Cane, and the Cuban Cane. The D. 625 gave 60.7 tons of cane per acre, the average weight of one stool being about 50lbs. The B. 208 gave 33.4 tons per acre, the Cuban Cane gave 27.5 tons per acre, and the Ribbon or Estate Cane gave 32.5 tons per acre. The D. 625 gave an increase of over 80 o/o on the estate canes. The B. 208 and the Ribbon canes were almost even, the B. 208 giving a difference of about 3 o/o, while the Cuban cane fell below the standard by about 15 o/o. As ratoons the B. 208 gave 28.9 tons of cane, and the estate cane gave 24.3. This represents a gain of about 18 o/o.

KEW ESTATE.—A varietal experiment was taken off at Kew estate with first ratoons. Seedling canes D. 115 and B. 208 were tested against the ribbon or estate canes. D. 115 gave 23.9 tons per acre, B. 208 gave 23.7 tons per

acre, and the estate cane gave 17.5. This represents a gain of about 34 o/o on the estate cane. These figures are interesting in view of the fact that we are so often told that the seedling canes do not ratoon. Mr. John Charley, the overseer, speaks in high terms of these canes, emphasising that fact that they stand up in the field and do not rot, which would represent an even greater gain over the estate cane, as the losses by rotting means anywhere from 15 to 40 o/o on his crops on the low-lying soils along the river, depending on the seasons.

COPSE ESTATE.—A varietal experiment was taken off at Copse Estate with the B. 208, D. 625, and the estate cane. D. 625 gave 38 tons of cane per acre, B. 208 gave 33.9, and the estate cane gave 27.9. This represents a gain of 37 o/o on the estate canes by the D. 625, and 22 o/o by the B. 208. The juices of the D. 625 when tested by the saccharometer were poor as compared with the B. 208 and the estate canes. Mr. MacKenzie, the overseer, speaks in the following terms of the B. 208:—"It is in my opinion, (and that is based only on the results as plants), that the seedling cane B. 208 is superior in every way to the cane grown on the estate—than the Ribbon cane. The B. 208 gives a much heavier cane, more regular in size, containing more saccharine matter, growing with greater exactness, thus avoiding rotting in heavy weathers, and being easier in thrashing. As food for stock, I consider this cane quite as good as any I have seen."

GEORGES PLAIN.—I induced the attorney last year to purchase tops of the B. 208 from a neighbour. I was fortunate in being present at the cutting of these fields. Two square chains were selected in the middle of the fields just at the dividing line between the B. 208 and the estate canes. The results were as follows:—B. 208 gave 23.5 tons of cane per acre, and the estate cane gave 13.5 tons per acre. The gain represented by the increased weight of the B. 208 is over 65 o/o. Mr. Woolliscroft I think paid 8/ per 1,000, and bought a matter of 5,000. The canes being valued at 10/ per ton, it does not appear that the investment was a bad one.

MT. EAGLE.—In the varietal experiment conducted here, B. 208 as a ratoon gave 33.2 tons of cane per acre. There was no estate cane for comparison on the same piece of land at the time. As plants, the Mt. Eagle seedlings were tested against the estate cane on new land. The Mt. Eagle seedlings (D. 119 and D. 147) gave 51.8 tons of cane per acre, and the estate cane gave 27.9. This represents a gain of 85 o/o by the Mt. Eagle seedlings.

A varietal experiment was conducted at Holland Estate with the following results:—

D. 109 gave 16.6 tons per acre.

Estate cane 25.1 " " "

D. 130 gave 25.4 " " "

B. 208 gave 31.2 " " "

It will be seen that the B. 208 is the best cane of this set of experiments, giving an increase of 6.1 ton of cane per acre which

represents a gain of 24 o/o. Another field was cut, containing the D. 116 and the estate cane. D. 116 gave 33.1 tons per acre, and the estate cane 21.1 tons. This represents a gain of 12 tons per acre, which is a gain of nearly 60 o/o. Mr. Milliner at Manchester Pen remarks on the value of seedling canes :

“Tonnage.—While I did not weigh canes, in comparison with the ordinary estate canes grown in close proximity, the difference in flavour of B. 208 was so marked that the most inexperienced eye could have seen it. I tested the juice and found it stood at 17.2 Brix, and the ordinary estate canes grown in the next row stood only 15 B.

“Crushing.—While I have made no actual comparative tests, from close observation I can certainly say they give appreciably better results. So far as my experience goes, they are very good ratooning canes, showing good drought-resisting powers. They grow very erect, fairly thick in the stool, are rather short, but very heavy. Rats seem to have a very great liking for them.

“D. 95 is quite useless here.

“D. 116 is an excellent cane except that the juice is poor as compared with B. 208. I have tried other seedlings, but none have given satisfactory results.”

(Signed)

H. MILLINER.

Before closing this brief article, I should like to say a few words upon the cultivation of our canes, and these remarks I address particularly to the small settlers who have canes under cultivation.

It is generally thought that the cane is hardy and capable of withstanding conditions which would invariably mean death to any other plants under similar circumstances. In a measure this is true, but it must be remembered that even though the cane might not die, still its vitality might be seriously injured, and the crop diminished, if attention is not paid to the conditions necessary for its next development.

We often find in a provision field, canes planted in some remote corner where cultivation is seldom, if ever, given. Did the cane receive the same amount of attention that the yams and the banana have demanded, it is fair to suppose that the sugar industry of this country would be much more popular than it is at present.

Careful attention to the physical condition of the soil is absolutely necessary, manuring should receive particular attention. The drainage of the land in some instances is vitally necessary if the best results are to be obtained. It will be found useful in the drier sections of our Island to mulch, or cover the land with trash or grass to a depth of six inches. This will act as a check to evaporation, and be found to induce great vigour in the growth of the canes.

In the selection of the tops the greatest care should be exercised, as a poor top invariably means a weakened and unhealthy stool. It is sometimes advocated that the best tops are found in the

thrown-up fields. Why this should be so does not appear to the thinking mind as being possible. It would be more reasonable and in keeping with results obtained by men whom I have met, and who are considered successful planters, that tops be selected from the best canes on the estate and from no other.

The method of planting, I am convinced, has much to do with the success of our canes. It is a matter that must be decided largely by local experiment, and I would strongly advise those who may take sufficient interest, that a portion of land be set aside and a selection of uniform tops be made, and planted in different ways, and observations made.

It will, I think, be generally found that the method in vogue might possibly be improved. I know of one particular instance in which a planter was unable to get tops to grow, and his method consisted in loosing up the soil, forming it into a small mound, and placing the tops at lengths two inches below the surface in this light bed of earth. It happened to be a dry district, the mound of earth soon dried up in a few days by the circulation of air and the tops withered in consequence. I advised him to try the vertical method of planting, which consists in driving a hole into the ground, after it has been prepared with a digger, to a depth of seven or eight inches, and inserting the top into this, pressing lightly with the foot. This method ensures the top receiving the moisture necessary for its development, and establishes the root system below the area of the dry surface soil. It is unnecessary for me to say that this method when tried was successful.

Finally, the sugar station is willing on application to distribute tops free to all who may be interested in sugar. Several Branch Societies have received donations of tops gratis. There is no reason why the number of branches receiving tops should not be increased with benefit to the members. The sugar station is willing to answer all questions relating to the sugar industry, and when necessary, to give the matter personal attention.

All communications should be sent to the Director of Agriculture, Kingston.

OTHER LANDS.

AGRICULTURE IN JAPAN.

BY SIR F. A. NICHOLSON, K.C.I.E., I.C.S. (*Retired.*)

IN this note, which has resulted from an extensive tour in Japan, undertaken primarily to study fisheries, we are presented with facts and figures in relation to Japanese agriculture which, to use the author's expression, *command* attention. "The gross area of Japan proper is 94,000,000 acres. Of this the greater part is mountainous and hilly, and in the north endures a long winter. . . . With all the labour industriously applied during thousands of years only 12,778,124 acres or 13.53 per cent. of this area was

arable land under cultivation in 1905. The rest is not at present cultivated, and by far the greater area never can be. . . . The crops on this small area *plus* fish from the sea and some poultry and eggs, practically feed the whole Japanese nation, for meat, milk, butter and cheese are not articles of their diet. . . . The average annual net imports from 1895-1905 would not feed the country for two weeks. The population in 1905 was 47,812,702, so that it subsists on an area of 0.267 acres per head, an area which, for a self-sustained nation, is probably of unparalleled minuteness. . . . Yet the Japanese are the reverse of starved; they are particularly strong, sturdy and well-nourished; beggary is hardly existent and emaciation not visible." When we consider in addition that even the arable area of Japan is, according to many presumably competent observers, naturally of low fertility, that it "has paid very high rentals to a non-labouring or leisured class, has kept its soils not only unexhausted but fertile, and has done all this without imported food or manure, almost without cattle, and wholly without any manurial or 'artificial' fertilisers even from within its own borders," the importance of a study of the agriculture of Japan will be admitted. Japan is essentially a country of small cultivators. "In 1901 farms below 2 acres formed 55 per cent. of the whole number, those between 2 and 3½ acres were 30 per cent. and those above 3½ acres were 15 per cent. . . . The average occupancy for the country is only 2.55 acres." About two-thirds of the occupants are tenants or part tenants, the remaining third peasant proprietors. Taking state assessment and local rates together, rural land bears an average annual assessment of Rs. 11.3 per acre. Since the Russo-Japanese war this has been increased by 60 per cent., temporarily it is true, but with little hope of its ever falling to its old level. In addition, two-thirds of the farmers pay rents for their lands, which, as is commonly the case in countries of small cultivators, are often rack-rents. As in India, the farms are made up of scattered fields, but a measure recently passed to encourage consolidation of holdings, is being largely taken advantage of, the Agricultural Associations playing an important part in the necessary work of arbitration and exchange.

In Japan, with the exception of the north, the conditions of temperature and rainfall are almost ideal for the growing of crops.

. . . The country, moreover, everywhere abounds in streams and springs fed from the mountains and hills of the interior. But if climatic conditions are favourable, Japanese agricultural practice is such as to take full advantage of them. "There is *no* slovenly cultivation, no carelessly worked areas; all seems on a general level of excellence and is like one vast, well-worked garden. The soil generally of dark loam, is absolutely clean; weeds are not to be seen at any time among the crops; all stones are removed so that every square inch may play its part." Tillage is carried on almost entirely without the aid of cattle or other draught animals, which are only now slowly being introduced into a few districts. Before sowing, a perfect tilth is obtained on every field by continued digging;

and while the crops are growing, there is constant interstitial digging or hoeing up to the time of harvest. . . .

But that which most impresses an observer, familiar with Indian conditions, is Japanese manurial practice. As there are only a little over 1,000,000 each of cattle and horses in Japan, and sheep and goats are practically non-existent, the manure supplied by livestock is altogether an insignificant quantity. The great source of manure is human excrement or night-soil, and the care exercised on the collection, preparation, conservation and application of this excellent manure is extraordinary. When in town or country none of it is lost to the land. All is carefully collected and stored at the homesteads or in the fields in vats with closely thatched roofs, which not only protect the contents from sun and rain, but prevent over-free circulation of air and consequent loss of ammonia. Night-soil is never applied fresh to the land. After fermenting in the vats for not less than ten days, it is found to be converted into a semi-fluid mass, and is considered ready for use. It is applied to crops diluted with water from one to ten times its own bulk, the first dose on the spot where the seeds are to be sown or seedlings planted, while subsequent doses are given to each plant as required, the last at the time when the plant is coming into flower. No crop is grown without manure, and every plant or group of plants receives its specific dose, not only once, but several times during the growing season. It will be conceded that such a system of conservation and application, exceedingly laborious as it is, involves a minimum of waste. . . .

Equal care is bestowed on the preparation of compost. It is "absolutely universal as a manure ; it is the solid or dry complement of the equally universal liquid X (night-soil) and is a practical illustration of the 'waste nothing' principle of Japanese farming. Every scrap of organic matter carefully searched out and collected, animal excreta, always excluding human, but including those of fowls and of pigeons which are often kept for the purpose, leaves, weeds, straw and all sorts of vegetable refuse from the town, farm or house, such as potato peelings, radish tops and so forth, dead silkworms and their pupæ, slaked lime and shells, bones of all sorts pounded small, wood and straw ashes, indigo refuse, astragalus grown after a paddy crop, loamy earth, etc., are all pressed into service. These materials are piled up in the yard or under a shed ; usually a layer of vegetable matter first, then animal dung, then lime, powdered shells and wood ashes ; the mass is then moistened with the liquid drainings from the stables, if any, or more generally with human urine, covered with earth and allowed to ferment together in a mass which is usually sheltered from the rain by stout straw mats, if not under a shed. The mass is occasionally turned over, and is left until the whole has decomposed into a fine rich nutrient earth (the Japanese name is 'manurial earth') which is passed through a sieve and used as a fine powder, especially at sowing time ; the coarse matter which does not pass the sieve, forms part

of the next heap. Occasionally it is said that the mass is burnt, the resulting black earth being used in the same way."

Nothing better illustrates the thoroughness which is characteristic of the Japanese nation than the manner in which the Government has initiated, developed and organised, agricultural education and research, and the response of the people to the lead of Government. . . . Agricultural education begins in the higher elementary schools, in a large number of which the pupils are taught agriculture and natural science. *All* teachers in Japan receive instruction in these subjects at the normal training schools. In close connection with the elementary schools are 1,436 supplementary schools which give more extended instruction in agriculture. These are either evening schools, or give short courses in the winter months or during slack seasons, and are largely attended. Next come 118 regular agricultural schools of two grades. In the lower grade schools, of which the pupils must be over 12 years of age, there is a three years' course with 27 hours of study per week, exclusive of practical work. In the higher grade schools, the pupils must be over 14 years of age, the course is more advanced, and extends over three or four years with a two years' post-graduate course, if desired, for specialisation in particular subjects. To both these classes of schools are attached experimental and demonstration farms, which serve for the instruction not only of the pupils, but also of the agricultural population in their neighbourhood. The teachers, too, regularly deliver lectures on agricultural subjects to farmers at various centres. Both the agricultural schools proper, and the supplementary schools from which they often develop, are of local origin and are supported by local funds aided by moderate Imperial grants. Nearly all the pupils which pass through them either return to the land, or become teachers or agricultural officials. Finally, there is the Agricultural College of Tokyo and the Colleges of Sapporo and Morioka, with fully equipped laboratories and experimental farms, where agricultural experts, teachers, and agricultural officials are trained. The work of the schools and colleges is largely supplemented by the experiment stations, one large central station with several branches, and numerous local stations. The latter cost about Rs. 6 lakhs per annum, 75 per cent. of which is met from local funds. In connection with the experiment stations, there are no less than 300 itinerant lecturers, who give instruction in agriculture and allied subjects.

In close touch with the experiment stations are the Agricultural Associations. Probably in no other country are these so general and so well organised as in Japan. They are divided into Prefectural, County, and Village Associations, "of which there were recently 46,579 and 11,968, respectively, as compared with 47 prefectures, 638 counties, and 13,509 towns and villages." Taking the Village Associations first, "before any Village Association can be formed, not less than two-thirds of the persons qualified shall consent, provided that such two-thirds own not less than two-thirds of the cultivable land; but when such association shall have been

formed, *all* persons qualified for membership must join it." The funds of the association are derived from the subscriptions of the members. Each Village Association within a county elects a deputy, and these deputies together constitute the County Association. The Prefectural Association is similarly made up of deputies elected by County Associations. Finally, the Prefectural Associations elect deputies who together form a kind of Central Agricultural Council.

The work undertaken by the Village Associations is extensive. They are responsible for reporting to Government on the agricultural conditions of their areas, and for furnishing agricultural statistics. They undertake seed selection and distribution, establish common seed-beds for the members, combine for the destruction of insects and other pests, initiate agricultural experiments and introduce agricultural improvements, purchase manures wholesale for the members, conduct competitive exhibitions of agricultural products and implements, and of growing crops, and award prizes or honours, give assistance in sericulture and other home industries, make provision for agricultural education in schools, or, by lectures, assist in the consolidation of fields, publish bulletins, and, in various other ways, promote the interests of the members. The County Associations assist and to a certain extent guide the Village Associations, while the Prefectural Associations stand in a similar relation to the County Associations.

ROOT DISEASE IN CACAO : REMEDIAL MEASURES.

(From "*Sanitation of Cacao Orchards*," by F. A. Stockdale,
Mycologist, Imperial Department of Agriculture.)

Whenever breadfruit, breadnut, mango, pineapple, or avocado pear trees are noticed in a cacao plantation to be dying, they should be immediately taken out and burned. Particular care should be taken thoroughly to extract as many as possible of their roots and destroy them. Trenches should also be dug, to cut off the roots of the cacao tree from those of the trees in the infected spots. It is frequently advised that breadfruit, breadnut, and avocado pear trees should not be planted amongst cacao in new plantations, and when any such trees have to be removed from old plantations, care should be taken to extract their roots. The mango is not very often attacked, and therefore may be used for wind-belts ; but these trees should be carefully watched.

When an area of cacao is affected, it should be isolated from the remainder of the plantation by digging a trench, about two feet deep and sixteen inches wide, around the diseased trees. This encircling trench should be connected with the general drainage system to prevent the lodgment of water, and care should be taken to include all the unhealthy trees in the circumscribed area, and to throw the earth from the trench into that portion that has been cut

off. The surrounding healthy trees should be kept under observation for some time, in order to ascertain whether isolation has been complete. If it has not, a further trench encircling a larger area must be dug.

All the trees in the affected and isolated area must now be carefully examined. The most badly diseased ones should be taken out, their roots extracted, and the whole burned. Others less badly affected should have the soil removed from their principal roots, and the roots laid bare. The diseased roots should be cut off, and the diseased parts removed and burned. A good application of lime—say 5lb.—should then be given in the holes that have been made around the trees, while laying bare the roots, and turning back the soil. If a large number of roots have had to be cut off, a good heavy pruning should be given to the tree, in order that it may not suffer from excessive transportation while possessing a reduced root area.

The whole of the isolated area, after the trees have been separately examined and treated, should be properly forked, and a good application of quick lime at the rate of about 10lb. per tree, should be broad-casted. After a time, applications of pen manure and mulchings should be given, and in the following year another general application of lime at the rate of about 3 to 4 lb. per tree should be made. After the first general thorough forking, it is advisable that further forking should not be given for some years unless the trees are falling back, the land being kept in good tilth by heavy mulchings of grass and leaves. Forking always causes wounds to the roots, and if fungus is present in the soil, it is a means of spreading the disease.

Planters who have followed these remedial measures in Dominica and St. Lucia, have saved considerable numbers of trees, and it has clearly been demonstrated that this disease, if it is taken sufficiently early, may be successfully treated.

WHITEWASH THAT WILL NOT RUB OFF.

A first class whitewash is made by dissolving 2 lbs. of ordinary glue in 7 pints of water, and when all is dissolved, adding 6 ounces of bichromate of potassium, dissolved in a pint of hot water. Stir the mixture up well, and then add sufficient whiting to make it up to the usual consistency, and apply with a brush in the ordinary manner as quickly as possible. This dries in a very short time, and by the action of light, becomes converted into a perfectly insoluble waterproof substance, which does not wash off even with hot water, and at the same time does not give rise to mould growth, as whitewash made up with size often does. It may be colored to any desired shade by the use of a trace of any aniline dye or powdered coloring, while by the addition of a small proportion of calcic sulphite its antiseptic power is much increased. Prize Holding Competitors and others should note this excellent preparation so easy to make.

WHITE SCALE.

We have addressed the following letter to the Secretaries of Branch Societies in orange-growing districts :—

In all the orange-growing parts of the Island, the citrus trees, orange, lime, and grape-fruit, have since the effects of the drought began to be severely felt, been attacked by White Scale which has caused the death of many of the older trees, and damaged, where it has not destroyed many young trees. This scale has always been on orange trees to a small extent, but favoured by the weakness of the trees through long dry weather, it has spread rapidly. The ordinary washes such as will kill the ordinary scales will not destroy this scale, and the only effective wash found to be any good so far, is the Lime, Sulphur and Salt Mixture, the recipe for which has been published in the AGRICULTURAL JOURNAL, October 1907, April 1908, June 1908, August 1908. This is not a cheap wash, and as it is apt to burn the foliage, it should be applied about November when the price of oranges has gone down so far that it is not profitable to sell them ; then if this wash is prepared carefully according to the recipe given below, and scrubbed on to the trees—in the absence of a sprayer which can reach all parts—care being taken to use a glove or a piece of old sacking to protect the hand ; the trees will probably—but not always, depending upon their constitution—drop their leaves, but in two or three weeks they will put forth new leaves, and probably have an early blossoming.

The large proprietors with their hundreds and thousands of trees growing through the pastures are not in such a good position, owing to the great expense involved, to do this so well, and so thoroughly, as small settlers with fewer trees.

Even though the orange crop is not very profitable for shippers, still, what with the picking, and the cartage, and the packing, the railway freight and the steamship freight, the orange industry represents a large amount of money to the Island, and the small settlers, especially in Manchester and St. Ann, are the greatest gainers. Probably when we get an abundance of rain again,—as has not happened to date,—much of the scale will be washed off the trees, and what with this and the increased moisture in the ground, the trees may regain a good deal of their old vitality, but it is not wise to trust entirely to this.

If a very large proportion of the trees in the Island were destroyed by this scale, we may lose our orange industry altogether ; if the large proprietors lose thousands of their trees, the price of oranges may possibly be increased ; it is of the utmost importance, therefore, that small settlers should see to it that they do not lose any of their trees, that if they have never spent any time or effort on them before, they should now do so. The Agricultural Instructor for your district will be glad to give you fuller explanations on the subject, and the matter is important enough for this to be made a special subject at meetings of Branch Societies in districts interested in oranges.—JOHN BARCLAY, Secretary.

* * *

LIME SULPHUR AND SALT WASH.—For 30 gallons of wash take 5 gallons of water, put in 10 lbs. powdered sulphur, stir, and boil thoroughly for rather more than an hour, stirring at intervals. When it is quite boiling, throw in 5 lbs. of salt and 10 lbs. of temper lime. Let the fire die down and continue to stir thoroughly till all is well mixed. For use make the whole up to 30 gallons.

In applying the wash, use a sprayer for the leaves, but if the scale is bad on the wood, use small brushes for the bark.

It is important that the operator should bear in mind that solutions made by stirring the sulphur in hot water first and adding the lime to this, are more efficient than having the order of procedure reversed.

It should be borne in mind to care the hands with old gloves or a piece of sacking when using this mixture.

DEAD OR DISEASED COCONUT TREES.

So serious are dead or diseased coconut trees considered to the important coconut industry of Ceylon, that owners are compelled to cut them down. The following are the regulations in force in Ceylon :—

1. It shall be the duty of the owner or person in charge of every coconut tree which is dead to forthwith uproot such tree and either to consume it with fire or to keep it completely submerged in water so that the beetle and all eggs and larvæ thereof may be totally destroyed, and that the tree may not serve as a breeding place for any or either of the beetles mentioned in the schedule to Proclamation dated December 18, 1907.

2. It shall be the duty of the owner or person in charge of every living coconut tree which is attacked by the beetle secondly described in the said schedule either completely to destroy the tree in one or the other manners described in section 1 of these regulations, or to cut out and destroy the portion of the tree that is attacked, together with all the contained beetles and their eggs and larvæ, and to fill up the cavity with mortar or any other material that will prevent the re-entry of such beetles.

3. No owner or person in charge of any land or premises shall keep or permit to be kept on such land or premises dead coconut stems or pieces of coconut stems (except such as have been sawn or split into rafters for building purposes) or other matter which would be likely to harbour or become breeding places for the said beetles, or neglect or refuse to remove or destroy the same when required so to do by a notice in writing signed by the Government Agent of the Province, or the Assistant Government Agent of the District, or any Police Officer or Headman.

4. No owner or person in charge of any land or premises shall retain on such premises, rubbish heaps or other accumulations of dung or vegetable refuse required for manurial purposes for a longer period than four months before application.

5. The Government Agent, Assistant Government Agent, and every Police Officer and Headman shall have access at all reasonable times into and upon any land whereon any coconut tree is growing for the purpose of inspecting such tree, and also into and upon any land or premises where there is reason to suppose that there are kept any such things as in the preceding rule are referred to.

[A proposal was made here owing to the danger of bud-rot disease spreading, to make the burning of dead trees compulsory, and the matter was discussed by the Board of Management of the Agricultural Society, but no recommendation on the subject was made to the Government. It is a matter worth coconut growers keeping before them however.—Ed.]

THE USEFUL INFLUENCE OF SHOWS.

No one who attended the earlier agricultural shows, and who attends the shows of the present day, and notes the vast improvement which has been made in the manner in which the exhibits are now brought to the shows, compared to the way in which they used to be brought, can doubt the usefulness of shows, as a means of education in carefulness and neatness. The amount of neatness now displayed in the preparation of the agricultural exhibits as compared with the past is most pleasing. This is also the case with stock. But there is still room for improvement. In some cases animals should be cleaner, and quite free from ticks. Much more attention should be given to the handling of the stock, especially the young stock. People's lives are often endangered by having to use animals badly trained, or not trained at all when young, and costly and valuable animals are often blemished, and in some instances injured for life through not having been taught to lead easily, and tie up quietly, and be otherwise tractable and obedient. Animals are taken into the show ring which will neither lead nor drive—and good looking animals have to be passed over by the judges from the simple fact that they utterly refuse to be trotted, and in some cases even lead around the ring in order to exhibit their style and paces. Even in the riding and driving competitions, at times really good animals have to be passed over from the simple fact that they are so faulty in their manners, often requiring not only great strength, but extreme tact to keep them at all within reasonable bounds. This is in some cases due to the temper and disposition of the animal, being naturally high-tempered and excitable, but more often it is no doubt due to defects in early training. There is too much of the idea of *breaking* in young horses to be the *servant* of man to prance, jump, and be restive and excitable at every movement and touch, rather than to *training* of them to be the trustful, willing and obedient *friends* of man.—E. ARNETT.

Gibraltar, Stewart Town P.O.

GOATS.

IN April JOURNAL of this year, we wrote of the different types of goats, and gave an account of the ram and ewe goats of milch breeds, which had been imported into the Island by us. We explained how and why these breeds were so much superior to the goats we had in the Island, and how it was quite practicable, and within our circumstances to raise equally good goats here, given the same care and knowledge of these animals that were exercised in the countries to which the breeds mentioned belonged to. We have been asked to write on this particular phase of the subject more fully, i.e., to explain what care is necessary, what feeding is necessary, and generally what system of care and breeding should be followed.

Although the goat is a destructive animal, it is no more so than the pig, and when pigs cannot be kept goats may be kept with profit as they need much more food than the natural herbage. In the economy of our agriculture, stock-keeping and the saving of manure from stock kept must be a principle to be thought over, and practised in future. In our rocky and dry districts and in our mountainous districts, we are convinced that a great deal more can be got out of the land than is presently got under some kind of cultivation; and that a great deal of the old lands that have at one time been cultivated, but have been thrown up and are now under bush near roadsides and near to dwellings, can be taken up and cultivated profitably through the aid of stock, the saving of manure from the animals kept, and applying it to the land. We direct attention to the article on Agriculture in Japan in this issue which shows how a small country teeming with population,—where lands have been cultivated for thousands of years, still remains most productive by the conservation of all animal and vegetable material and its careful application to the land.

There is no more useful animal than a goat to small settlers, especially in those districts where it is difficult to keep a cow or at least more than one cow, or where, as in the Port Royal Mountains, lands are often too steep to tether out cows. It is not very troublesome or expensive to have strong tethers that will not be always breaking like cheap rope, such as light chains that are used for dogs, nor does it take much trouble to tether out five or six goats and shift them three times a day at least, to fresh feed. Goats, however, do not like wet; slight showers are neither here nor there, but exposed to heavy continuous rains they do not thrive. In the Port Royal Mountains and other places, therefore, where heavy, lasting rains very frequently occur, it is essential that small sheds should be put up to tether the goats in at night, and in times of continuous heavy rains. Such sheds can be put up very cheaply, they only want posts and a thatched roof—they need not be raised high. Children should be taught to take an interest in feeding the goats, as well as feeding rabbits (and this is another item of stock which is easily kept and provides besides food for the family; a large quantity of manure), taught to shift the goats about frequently, and to cut feeding for them when they are brought in at night. What feeding the animals waste can be spread in the sheds or pens for bedding, and to absorb the urine. If plenty of bedding is spread, the shed need not be cleaned out every day, but left till an appreciable quantity of manure is collected, and this will make better manure as the thicker the bedding is the more urine will be absorbed. The urine of an animal is as important to be saved as the droppings, as it is rich in manurial qualities. If such care is exercised the goats will steadily improve, they will grow more quickly and to a larger size, the nannies will yield more milk, and if this careful practice is carried on for several generations, a wonderful difference in the quality of the goats generally will result. If at the same time rams of milch breeds are used (and this year a good many young ones will be available for local Agricultural Societies to introduce into different districts), at one cross

the milk production will be doubled, possibly more ; but we say plainly it is no use at all thinking that by simply crossing with an imported ram, nannies yielding two and three quarts of milk will result. The well-known breeds of milch goats, as we explained in the article referred to at the beginning, are the result of care in breeding and feeding for many generations, and if the progeny do not receive something of the same kind of care, they are more likely to die or fail to grow well than otherwise ; but given care in feeding and housing as well as in the breeding, speedy improvement will be the result both in quick growth, larger size and better milking qualities. One of the most common causes, perhaps the most common cause of deterioration, is through allowing young billy goats to run about, and mate at an early age and at random, and in the young nannies breeding too young. Young billies should be castrated before they are three months old—in fact as young as possible—only a promising one can be kept now and again and carefully kept separate. Nannies should not be bred until they are well grown, not under eight months—at any rate not till they are judged to be matured. If they are well fed they grow so quickly that they mature in half the time, than if they are tied out among some bush and only shifted once or twice a day. As regards feeding they prefer bush to grass, but there should be a mixture of both. Goats are not such close feeders as horses or cows, and unless obliged to do so by hunger will not feed down all vegetation within the radius of their tether ; they like to pick and nibble, and it is a necessity with them to frequently shift them to fresh spots, to get the best results. At the same time they eat a large range of products, and waste material from the kitchen can be utilized for their feed—peelings of yams, chochos, cabbage leaves, turnip tops and skins, mango skins, banana skins, green pea pods, and so on. As a rule, however, the pig gets these things, but there are many places, as we have remarked, where there is not enough feeding for a pig and where goats would pay much better, that is, six goats could be kept on the feed of one pig and be ready for market, in the case of goat wethers, in less than half the time of a pig.

Goats like sheep and rabbits, do not require much water, especially where the vegetation is often wet, but they should be offered water at least once a day. We are afraid they are terribly neglected in this respect, and, although they exist without water, do not thrive in the way they should.

Goats, especially where they are kept in pens at nights which are seldom cleaned, often suffer from lice, and very badly too. If a goat owner is observant at all, as he ought to be, he will easily find out when lice are troubling the animals, by their scratching. They can either be washed with strong carbolic soap and water, rubbing this in with a coarse brush against the hair, or an old brush dipped in strong Jeyes water can be used—a scrubbing brush (an old Dandy brush does well) is at all times better for washing them than a cloth. Where many goats are kept, patent sheep dips can be bought at the shops in Kingston or elsewhere and used according to directions, using an old cask to contain the dip. Then the goats

can be lifted and plunged in up to the neck, a cloth taken, dipped in the water, and the parts round their ears, round their eyes, and over the muzzles carefully sponged so that the dip touches every part. They are then lifted out of the dip, held for a moment to drip and allowed to run. Rubbing, however, with a brush is much more effective.

Goats are healthy animals, but, like other animals, suffer from disorders. Where flocks of goats are run, especially on old lands, they often suffer from worms—small intestinal worms and also lung worms, thread-like parasites. The simplest remedy and one generally effective, is a dessertspoonful of turpentine in two tablespoonsful of castor oil given twice a week; and a decoction made of a dessertspoonful each of Stockholm Tar, sulphur, carbonate of soda, charcoal and common salt, made up with sufficient cornmeal to make four balls, one to be given each day, after the turpentine and oil is discontinued, is a good tonic to administer. Blue-stone or Sulphate of Copper is also a good remedy for worms, but this should be more carefully administered than the average goat-keeper will do, and we only give remedies that are safe to use.

Goats may suffer from a cold: when they cough and mucus is seen at the nostrils, the latter should be washed out with Jeyes and water, and a tablespoonful of Jamaica Healing Oil should be administered every day until better.

Goats also suffer from sore-mouths: in this case the mouth should be washed out with a pinch of Permanganate of Potash in water, and if on the outside of the mouth, the sores can also be touched with Tincture of Iodine, a safe specific to use externally.

In milking nannies they should be taught to stand still, and to get them willing to do this, they must be handled gently. The milking operations should be associated with kindness, and a feeling of relief to the nanny at having the milk drawn. The milker should take a handful of corn or some tit-bit, enough to keep the goat eating for five minutes, he should then wash the udder, and softly press the teats, drawing at the same time and not pulling it as if the teats were made of india-rubber. No milker should keep long nails on his fingers—they should be kept short.

SWEET POTATOES.

Instead of planting the best slips or cuttings of sweet potatoes, it is always the practice to plant vine cuttings called "potato slips" taken at random from a field. We have written a good deal about the selection of seeds for planting, and we know that this has been responded to very much. Coconuts, cacao, corn, and beans are all usually now carefully selected for planting by careful people, and they are very particular about good seed for Irish potatoes and vegetables, but still in planting a field of sweet potatoes, the same old method of taking vine cuttings at random is practised. There is just as much room for increasing the yield and quality of sweet potatoes

by selecting what is to be planted as with any other crop. If large, well shaped tubers are chosen and planted close together in a bed, covered with fine earth mixed with wood ashes to the depth of an inch, and covered with a grass mulch loosely put on to a depth of two or three inches, and this bed is kept moist by being watered whenever it gets dry looking, the potatoes will soon sprout. The beds should have drains round about to prevent collection of water in case of heavy rain. These sprouts in a few weeks will be six to eight inches long. If these are taken and planted in the field, the return will be so much greater than from the ordinary way, that you would hardly believe the difference. These same seed potatoes will give several crops of slips, usually called "Draws"; then cuttings can be taken from these when they grow, when they will be found very much more vigorous than ordinary slips. After two or three crops, however, another bed of potatoes could be planted to provide "Draws." This is the usual way of planting sweet potatoes in the Southern United States.

In an experiment carried out at the Experiment Station, Santiago, Cuba, one crop was planted with vine cuttings taken at random in the field, and the other with slips grown from the potatoes themselves; the latter yielded four and a half times as much as the other plot. When the plants are three months old, the ends of the vines can be cut off for pig or rabbit feeding, and this improves the crop of potatoes.

PRIZES FOR SCHOOL GARDENS.

The Governor has sanctioned the payment of seven prizes of £5, and seven of £2, one to the best, and one to the second best school garden in each of the Inspectors' districts, visited by them during the calendar year 1908, the merit of a garden to be estimated by the success with which it has been cultivated, its adaptability to the purpose of illustrating the school lessons in agricultural science, and the use which has been made of it for the purpose. The Inspectors will make a recommendation at the end of the year of the best gardens visited at their 1908 annual inspections, ascertaining as far as it is possible to do so in all cases alike the continuity of the work throughout the year, and then probably after consultation with Mr. Murray, who has been requested to bear the subject in mind in his visits.

Every school garden established on or before the 1st January, 1908, and inspected during the calendar year 1908 is eligible.

The award will not be made until December next. It will then be made by the Inspectors, probably after consultation with the Instructor for School Gardens.

The special grants for fencing are made on the recommendation of the Inspectors and the Instructor for School Gardens.

It must of course be borne in mind that the Manager is the only person to be dealt with in the matter of school grants.

COMMENTS.

MULCHING.—Four years ago mulching was hardly known in Hanover, and was only done by one or two people, most people thought it of no use. Now mulching is “all the go” at Mosquito Cove, the results are astounding.—TAYLOR DOMVILLE.

* *

DOGS.—We are often asked for good watch dog pups, the inquirers not wishing any pure breed of dog, but simply good watch dogs. We should be glad if some country member would advise us if he has such, or will have soon.

* *

VEGETABLES.—Now is the time to plant your vegetable seeds. The land should all have been prepared and left to weather, and now it should be in good condition to be made into beds ready for the planting of the seeds. All kinds of seeds should be planted in drills, rather than broadcast. The drills should be the width of your rake between, so that the soil between the rows can be loosened by the rake after the plants grow in.

The back of a rake is a good implement to make the drills. Make them broad and shallow, and firm the soil down, so that the seed can be planted level, and not drop into little crevices in loose earth. Sprinkle the seeds thinly. If too thickly planted, the little plants will crowd each other, and in transplanting or thinning, lots are wasted. Some vegetables do not stand transplanting well, although it may be done; then these vegetables are as a rule only fit for home use. These are root vegetables like turnips, carrots, beets, etc., and so it is best to plant thinly, and then thin out, leaving the sturdiest plants with plenty of room between. On the other hand, tomatoes, cabbages, lettuces, onions, etc., bear transplanting easily, and are in fact the better for it.

We can supply at 3d. a packet such varieties of each vegetable that have been proved to grow well here. There is no better cabbage for Jamaica than Henderson's “Succession” which we have.

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CACAO.—We have received a copy of a new book entitled, “Future of Cacao planting,” by Harold Hamel Smith, Editor of *Tropical Life*, London. It is the publication of a lecture delivered at the Colonial Fruit Show of the Royal Horticultural Society, on Thursday 11th June, 1908, when the Hon. W. Fawcett acted as Chairman. It also contains notes on the discussion which followed the lecture, in which Mr. Fawcett, Mr. Cradwick and Mr. A. N. Dixon of Jamaica, took part, together with gentlemen from Saint Lucia, Trinidad, Costa Rica and the Gold Coast, with practical knowledge of Cacao; they all contributed valuable knowledge.

We feel confident that this book would be most useful to every one engaged in cacao growing here.

The price is 1/3 here—and we have a small supply on hand.

SCHOOL GARDENS.—The long expected book on School Gardens by Mr. J. R. Williams, M.A., Inspector of Schools, has at last been issued. It has been most carefully prepared, and each subject has been written or revised by some specialist on that subject. It deals simply and yet fully with soils, seed-beds, seed-boxes, the general care of young plants, rotation of crops, the friends and enemies of the garden, the growing of vegetables (one of the most useful of all the chapters for those who work school gardens), the cultivation and curing of cocoa, coffee, tobacco, ginger, pine-apples, bananas, oranges, cotton, guinea corn, sarsaparilla, vanilla, grape vines, etc.; it also gives recipes for insecticides. There are three different plans of school gardens attached. Altogether this little book will be extremely useful, not only to the Teachers who require to operate school gardens but to every agriculturist.

It can be obtained from the Government Printing Office, or from this office at 1s. per copy post free.

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NEW BOOK.—We have pleasure in bringing a little book entitled, "Agricultural Practices and Morals," written by Mr. E. J. Wortley, Lecturer in Agricultural Science here, to the notice of our readers. It is well written and has good illustrations, and the maxims it contains, if all adopted in practice, would bring about a millennium in agriculture here. If the little book, however, appeals even to a few, so that they alter their practices according to the recommendations made, it will not have been written in vain.

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BROOM CORN.—We referred to this product in the September JOURNAL. We have got seed and can supply a large packet for 3d. It grows like guinea corn, is cultivated in the same way, and it makes large bush-like heads, which after the seed is taken away, are used for making brooms. They are cut for this purpose before the seeds are ripe, but some plants can always be left to bear seed.

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SPECIAL MEETING.—Owing to much matter held over from last month having to be included in this JOURNAL, and the large number of Branch notes, the report of the Special Meeting held in September, is held over till the November number.

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BULLS.—The roan Shorthorn Bull Henbury Favourite is still with Mr. R. L. Young, Tobolski, Brown's Town, and is for sale. Offers should be made before the 31st instant.

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BANANAS.—Americans declare that Cuban-grown bananas are not to be compared with those grown in Jamaica. I have never tasted a good flavoured banana in Cuba. The other day I received two hands of Jamaica bananas, they were a treat.—TAYLOR DOMVILLE.

PRICE OF PRODUCE.—The Newmarket Branch Society sent a resolution calling attention to the careless methods of peasant proprietors in the handling and curing of produce, and to the unscrupulous methods of buyers, who, by their eagerness to purchase produce over the heads of competitors, take anything that is offered, and thus encourage the small settlers in their careless ways. The parent Society was asked to obtain an expression of opinion from all Branch Societies, and from the leading export merchants, to find what might be done to remedy this. In the next JOURNAL this subject will be discussed.

* * *

SHOWS.—We have received a copy of the Prize List of the Manchester Agricultural Show, to be held at Kendal on the 7th November. Special prizes of £3, £2, and £1 are offered for the best collection of agricultural products containing not less than twenty distinct classes of exhibits from any of the local Agricultural Societies.

We have also received the Prize List of the fifth Agricultural Show of Newmarket Branch, to be held at Newmarket on the 9th November. This is a very well arranged prize list, and the show ought to be well supported in St. Elizabeth. Unfortunately, there is another show in the same parish under the auspices of the Santa Cruz Branch, to be held at Northampton on the same day.

Sav-la-Mar show is to be held as usual on the 1st January, 1909.

Bath show will be held at Potosi, St. Thomas-in-the-east, 21st January, 1909.

A small show will also be held at Gibraltar on the 6th January; a very good show was held there in 1904, but there has been none since.

St. Thomas-ye-Vale Branch has also arranged for a show to be held on Thursday, 15th April, 1909, at Bog Walk.

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MANURING.—We call the attention of our readers to the article on "Agriculture in Japan" in this issue. The waste of good manurial stuff here is very great. The waste takes place in all directions, but particularly in the soft weeds and grass from the field that are burnt. These should be collected together in a corner of the field, and covered over for protection against rains, and left to rot. Not so much banana trash is wasted now-a-days, still at some depots we see it being burned. The rich manure from 99 out of every 100 flocks of poultry in Jamaica is entirely wasted through their not being housed. Household waste is also very largely entirely wasted. The droppings of pigs are not conserved as they ought to be, and so on. Although the soil here can still grow some kinds of products without manure being added, and give a fair crop, yet with manure even the poorest soils can be made to yield very abundantly and profitably.

CORRESPONDENCE.

(Only letters with replies likely to be of general use are published here.)

Black Rock, Priestman's River P.O.

Dear Sir,—Please let me hear from you respecting the following:—

1. Is there any use of sprinkling the food of stock with honey? 2. What is the best of medicine for hogs attacked with cough? 3. Is there any benefits derived by heaping sand around the roots of cocoanut-seedlings? 4. Is wood ash of like use to young cocoa and coffee trees? 5. When may the Agricultural competition again take place in Portland? The peasantry are at present very much interested in it. It helps them towards keeping house and property in good order.—J. W. M.

[In reply to your queries (1) Anything sweet will make the food of stock, such as grass, corn and oats, more palatable, but honey will be more expensive than wet sugar, which is commonly used here. (2) Jamaica healing oil is about as good medicine for cold in pigs as you can use, a tablespoonful at a time, also rub with Elliman's embrocation all the outside of the throat. (3) We do not see that there can be any benefit derived from putting sand around the roots of young cocoanut trees. There is no virtue in sand as there would be in manure of any kind, which could be spread around the roots of the trees, but not heaped. (4) Wood ash is a good form of manure for young cocoa or coffee trees—nothing better, but do not heap it close to the stem of the trees as we see it so often done, it must be spread thinly around. (5) The next Prize Holdings Competition will likely take place in Portland next year, i.e., 1909 to 1910. We are glad to hear that the small settlers are so much interested in it.—Ed.]

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Re WHITE SCALE.—I certainly agree that it is high time that some systematic campaign against this scale should be entered into. I went carefully through the grove in my charge, and I am sorry to say the scale is much worse than when I left three months ago; even a lot of trees with ants' nests on them are infested with it, although not so badly as those trees with no ants on them. This rather bears out my statement made earlier in the year, that ants could not clear a badly infested tree as the scale breeds too fast. I hardly know yet what I propose to use on them, but as it is the pimento crop time now, the grove will probably have to remain over for the present. I shall be glad to hear of anything that may be of use, and I shall also continue experimenting on my own account. The pasture trees are getting worse and worse, and I quite agree with Dr. Tillman, that there will soon be no oranges to ship at all. If there is any progress made I will report.—Ocho Rios, September, F. A. CORY.

BRANCH NOTES.

Cedar Valley.—The monthly meeting of this Branch was held on the 23rd October. The Secretary being absent, the President acted. Present with the President, Rev. M. D. Gordon, were the following gentlemen: Messrs. T. Ramakie, A. McKay, A. Simmonds, Augustus Grant, H. Walker and others. After the reading and sustaining of the minutes the following business was done: (a) The Rules were carefully gone through and adopted. (b) Mr. A. D. Thompson gave notice to introduce at the next meeting a shareholding scheme *re* the Society. (c) A letter *re* Prize Holdings Competition was read. It was agreed that some local gentlemen should accompany the Instructor, but power to appoint should rest with the local Branch. (d) A communication from the General Secretary about "Birds" was read and tabled until the next meeting. (e) A meeting is arranged to be held on the 1st October, when Messrs. J.,

Hirst and J. Barclay are expected. (f) Discussion of expenses of the Society was laid over until the next meeting. We are having a plenty of rain. Vegetation is giving an excellent feast to the eyes, and if no disaster the cry of "hard times" will soon be less. The price of bananas and pimento is still very poor. The supply is fair.—R. CAMPBELL CLARKE, Secretary.

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Fair Prospect.—The ordinary monthly meeting of this Branch was held on Saturday, September 5th, 1908, when there were present: Mr. John Panton, third Vice-president in the chair, and six members. In the absence of the Secretary and Assistant Secretary, Mr. W. Z. Buckley acted. The meeting was accordingly opened with prayer, after which minutes of last monthly meeting were read and confirmed, after some explanation on paragraph 3. The Treasurer explained that in regard to his withdrawing from the Savings Bank the balance of Society's money (to be re-entered in other names) as directed, he had seen an officer of the Treasury who had explained to him that the book had been sent round to Kingston, and on its return would be given to Mr. Munroe. It was pleasing to learn that the total instalment has amounted to as much as the remaining principal. *Re* the letter from office of the *Daily Telegraph*, (laid over from last meeting), the Secretary was instructed to reply to same, stating the unwillingness of present members to subscribe, the latter having now taken a different view on the subject. The following letters were received from the Secretary of the parent Society, and read: (a) On Birds. (b) On Mr. Elworthy's withdrawal, etc. In reply to (a) the Secretary was instructed to reply stating that the subject was fully discussed at our monthly meeting, and the following conclusions have been arrived at: (a) It is not at all a thing practised here to destroy owls. (b) Bird-life is noticed to be rapidly decreasing. (c) The mongoose, to a very great extent, is responsible for this destruction in bird-life. (d) As destructive birds we find woodpeckers destroying cocoa; antikaties, yams; hawks, poultry. In reply to (b) the meeting regrets that Mr. R. H. Elworthy had to be withdrawn so soon, but is in the meanwhile planning to take the most it can out of Mr. Cradwick on his return. The meeting deprecated very strongly the conduct of both the Secretary and Assistant Secretary (especially the former) in the careless way in which they attend to the business of the Society. Miss Margaret C. E. Munroe of Priestman's River, was admitted a new member.—W. ZECHARIAH BUCKLEY, for Secretary.

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Lucky Hill.—A meeting of this Branch came off on the 9th September in the Goshen schoolroom at 6.30. Owing to rain, the members were unable to turn out as was expected. In the absence of the President, the Vice-president (Mr. C. J. Husband) took the chair. There were present six members. The minutes of the previous meeting were read and confirmed; also correspondence from the Secretary of the parent Society, and the Editor of the *Daily Telegraph*. The Treasurer of the Society (Mr. E. W. Spence) sent in his resignation, with all accounts, as he is leaving this part of the Island. The Society regrets his departure. As the meeting was not a well attended one, no Treasurer was elected until next month, when it is expected the members will turn out. A letter of thanks and satisfaction has been sent to Mr. Spence for the time he has been in the Society, for the efforts he has made to make it a success, and for the satisfactory manner in which all accounts and receipts have been rendered. The Secretary of the Society was instructed by the members to communicate with the Secretary of the parent Society to purchase some vegetable seeds of different kinds for free distribution among themselves. The paragraphs on Guinea Grass and Country Food in August Journal

were read and commented on, and the meeting came to a close. Nearly every day we are having fine showers of rain. Vegetation is luxuriant. The outlook for the cocoa crop is bright. Bananas go at £5 per hundred. The members of the Society unanimously agreed that on no account should owls be shot, because they are of great use to planters in destroying rats, which are so destructive to our various crops. They are not killed this way.—E. M. FORD, Secretary.

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Fair Prospect.—I am instructed to reply to your letter of the 18th ult. on *Birds*, as follows: (a) It is not at all a thing practised here to destroy owls. (b) Bird-life is noticed to be rapidly decreasing. (c) The mongoose, to a very great extent, is responsible for this destruction in bird-life. (d) As destructive birds, we find woodpeckers destroying cocoa pods, anti-katie yams, hawks poultry.

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Smithville.—The regular monthly meeting of this Branch was held on the 7th September, 1908. There were present: Mr. W. S. Reid, President, in the chair, and eighteen members. The President opened the meeting with prayer, after which the minutes of last meeting were read and confirmed. The meeting then welcomed Mr. J. A. Edwards, who very readily joined the Society and became its Secretary. A vote of thanks was tendered to the Rev. R. Chambers for acting as Secretary since the withdrawal of the Secretary for the Society. A letter from the Editor of the *Daily Telegraph* in re the Baker Memorial Fund was read. The Rev. R. Chambers was opposed to contributions being raised towards the erection of a statue. Mrs. Chambers suggested that the Memorial could take the form of an "Industrial Home," to be named "Baker's Industrial Home." After much discussion, the Secretary was instructed to reply to the letter stating the inability of the Society to contribute to the fund. The matter of a local show was brought up, but was deferred to next meeting. It was moved and seconded that the Treasurer's account be presented at next meeting. Mr. Amos Russell will read a paper on the Future of Smithville at the next meeting.—J. A. EDWARDS, Secretary.

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Comfort Hall.—On Monday the 21st September being fixed for holding the bi-monthly meeting of this Branch, the lecturer, Mr. J. T. Palache, then again made his appearance at the usual hour, when the meeting came into session, with the President in the chair, the Vice-president, Assistant Secretary, and a fairly good number of members and visitors, whilst the presence of some of the ladies around added refinement to the meeting. The minutes were then read and confirmed accordingly. Some points arising from the minutes were discussed, when it was suggested and agreed for the Vice-president, Mr. J. W. Lalor, to hold the position as Treasurer also for the current year. The lecturer here mentioned that the Superintendent for the Parochial Roads here promised that at an early date to visit the Mahogany Grove and Breeze Hole Roads, when he proceeded to lecture on the promised subject, "Manure and its application;" and after some length brought forward that the farm yard manure is the best owing to its necessary properties therein contained for plant food. Passing on he dealt on the housing of manure, and its application, especially where the plants show signs of decay, when at this stage, he brought forward a most lovely assorted lot of flowers from his garden for example, as the result of manuring, which drove the lecture deeper home, and then an open and warm discussion followed on the subject, and many expressed their approval, with satisfaction from the lecture. Moved by Mr. Jas Newman, and seconded unanimously, a very hearty vote of thanks was then accorded the lecturer, who in turn replied, encouraging the members to unite and the good that will arise therefrom, when by special request, he was asked to address the next meeting on

"Agricultural Loan Bank," and then he left for Balacava, followed by his usual rain. The business of the meeting followed, when applications from Messrs. Charles Haughton and Thomas Forknott for becoming members were received and granted. Letters from the Secretary of the parent Society were read *re* Bird-life, the Jacksparrow, Parrots, and Goldfinch were declared destructive to cultivation, but it was not to their knowledge that the Owl was being destroyed here, and that birds were decreasing, owing to the deforesting of the lands. On Prize Holdings judging it was with regret that the services of Mr. Cradwick could not extend to these parishes, but will otherwise be pleased to accept the appointed judges, so long as it meets a general approval, along with our local Instructor. Other communications were read, and a vote of thanks was then accorded to the Secretary, and that they were sticking to the rule—"no subscription, no journal." The following resolutions were passed: (a) To write to the Superintending Medical Officer to disconnect Comfort Hall and the surrounding districts from the District Medical Officer at Christiana, being in some cases 18 miles away to that at Balacava, 4 miles off. (b) That an office be opened here, being centrally situated, for the regulation of births and deaths in the said parish of Manchester. (c) That the Public Works Road Department be written to complaining of the very dangerous and neglected condition of the main road leading from Oxford Crossing to that of Green Hill. Many new thoughts on various subjects were exchanged, and the greatest interest and warm spirit were manifested throughout the entire meeting, and never before did the members and lecturer seemed so encouraged and inspired to go forward after a meeting for several hours, when the President declared the meeting adjourned for the 23rd November.—L. S. WILLIAMS, Secretary.

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Deeside.—The annual meeting of this Branch was held in the Hastings schoolroom on Tuesday afternoon, the 8th ulto. There were present: Mr. J. A. Foote, President, Mr. E. Arnett, Agricultural Instructor, twelve members, and the Secretary. There was also a number of visitors in attendance. The meeting was opened with prayer by Mr. Arnett, after which the minutes of the last meeting were read and confirmed. Mr. Arnett was then asked to take chair. The prize offered by Mr. A. Holland, Kingston, through the *Jamaica Times*, to the small settler who can produce the best statement of accounts in connection with his holding during the year ending 31st August, 1908, was fully discussed, but as those members and others present did not see their way to compete as they had not been keeping a regular account of their income and expenditure, it was moved by Mr. Arnett, seconded by Mr. R. McKenzie, and unanimously agreed, "That we write to the *Jamaica Times*, expressing our appreciation of the prize offered by Mr. Holland, Manager of Messrs. Nathan, Sherlock & Co., Ltd., Kingston, and our fullest sympathy and accord in connection with the matter, but owing to the fact that most of the small settlers are not accustomed to keep a regular statement of their accounts and for that reason, would not be able to enter the competition, we would ask that this prize be competed for during the year beginning September 1st, 1908, and ending 31st August, 1909, instead of the past year. A letter from the *Daily Telegraph*, *re* the Baker Memorial Fund, was also discussed. The members whilst recognizing the efforts of Captain Baker in establishing the banana industry, did not see their way to contribute to this fund as Captain Baker himself had been greatly benefitted financially and died leaving a large fortune. The next item on the agenda was the Secretary's report for the year, which was read and adopted. It shows that the Society is alive to its own interests and has been making some attempt in doing something. The next business was the election of officers for the ensuing year. Mr. J. A. Foote was re-elected President. Mr. R. R. McBayne, Secretary, Mr. John

Davis, Treasurer, Messrs. D. Thompson and R. Boche, Vice-presidents, the latter newly elected. The members that were placed on the Managing Committee in addition to the officers were: Messrs. R. McKenzie, B. Cousley, R. Barrett, G. J. Snowball, A. Barrett, R. Shirley, A. B. Lowe, Jno. Eccleston, W. J. James, and Mrs. C. Davis. The Chairman, after commenting on the work of the Branch for the past year, encouraged the members to co-operate with the officers and to increase the usefulness of the Society year by year. He referred to the useful work that the Penny Bank was doing and wished it long life and continued prosperity. The names of the following new members were enrolled: Messrs. Jno. Morgan, R. S. M. Cooke, J. H. McGhie, and Mrs. J. Plummer. This ended the business for the afternoon, after which the members and other friends sat down to tea and refreshment. This being done, the usual votes of thanks were given and the singing of the National Anthem concluded the proceedings.—R. R. McBayne, Secretary.

ANNUAL REPORT.—I have the honour to submit the fourth annual report of the Deeside Branch of the Jamaica Agricultural Society for the year beginning 1st September 1907, and ending 31st August, 1908. During the year just closed nine regular meetings and one special meeting in December were held. No meetings were held in the months of December, April, and July, owing to the unsettled state of the weather and on one occasion from want of a quorum. These meetings have been fairly well attended. Mr. Arnett, the Agricultural Instructor for the parish, made five visits during the year. These visits were made in the months of September, October, December, May and June. Mr. Barclay, the Secretary of the Jamaica Agricultural Society, paid one visit in October, when he lectured on the jippi-jappa plant and the hat-making industry. As the outcome of this lecture, plants were procured by some of the members in order to find out whether they would thrive in this locality. Until now nothing has been done in the way of starting a hat-making class. It is hoped, however, that the necessary arrangements be made at no distant date for the carrying out of the idea. During the year the names of twelve new members have been enrolled. The membership of the Society now stands at 44. The expenses for the year were 5s. for affiliation fee to the Jamaica Agricultural Society, stationery and postage 3s. 6d., for shares in the Society's experiment plot 10s, other items 1s. 3d. There remains a balance of £1 10s. in hand. An experiment plot of half an acre of land has been started by the Society for the purpose of cultivating crops suitable for the locality. The sum of £1 has been spent for the work already accomplished. I am glad to report that the Penny Bank connected with the Society is in a most flourishing condition, and continues to be a source of help to the inhabitants of the district. It was started on the 16th August, 1905. The depositors up to the present number 235 and the amount deposited to date is £338 1s. 9d. Although it has been a trying time with the people around the depositors have tried to put by some portion of their little earnings week by week, and in times of sickness and other emergencies, the Society has been of great benefit to them. In conclusion, let me impress upon the members of the Branch the importance and value of combining in order that it might fulfil the objects for which it was organized. No success can be achieved without we co-operate, and as we step forward into another year, let us strive to do more than we have hitherto done in promoting the usefulness and welfare of our Society. Let us remember that "Unity is strength," and "United we stand, divided we fall."—R. R. McBayne, Secretary.

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Upper Trelawny.—The Annual General Meeting of this Branch was held on 25th September. There were present: Mr. John Barclay, Secretary of the parent Society; Mr. E. Arnett, Agricultural Instructor; Messrs. D. R. Wright, J. D. Easy, A. A. Palmer, P. H. Marrett, F. H.

Coy, P. A. Brown, R. J. Allen, D. M. Anderson, D. Heron, C. E. Vassal, A. B. South, T. Pinnock, F. Perrin, John Walcott, D. J. Scott, together with twenty new members for the current year. There were also quite a few visitors. In the absence of the President, the chair was occupied by Mr. D. R. Wright, Vice-president. The Secretary's report was read and adopted *nem. con.* on the motion of Mr. D. J. Scott, seconded by Mr. F. W. Coy. Among other items of importance arising out of the report, it was very pleasing to note that the Society is still alive and may be of great service to all its members if they pull together for the attainment of the highest possible good. That the membership up to that date stands a little under fifty, while there are indications that during the year 1908-1909 it will be considerably increased. The crops have not failed and the price of produce has in some instances increased. That with deeper interest in agricultural matters, and attention to improved methods of cultivation, the district is bound to go forward, as the fertility of the soil of the district, its adaptation to the raising of various crops are unquestionable, and the rainfall is good. The Secretary next read letter from Mr. J. R. Bryan, President, announcing his inability to be present at the meeting and resigning his position as President of the Society. A vote of thanks was passed for his services during the past year. The officers for the current year were elected as follows: Rev. E. Arnett, T. I., President, *pro tem*; Messrs. D. R. Wright, J. D. Easy, and A. B. South, Vice-presidents; Miss Henrietta Dixon, Treasurer; Mr. A. A. Palmer, Secretary, and Mr. P. A. Brown, Assistant Secretary. The Managing Committee consists of the officers with Messrs. F. C. Perrin, D. M. Anderson, D. J. Scott, R. J. Allen, P. H. Marrett, J. Campbell, and Miss Susan Smith; the Auditors are Messrs. P. H. Marrett and P. A. Brown. The new Rules of the Society brought forth some discussion and necessary amendments were made. Mr. Barclay's letter *in re* the decision of the Director of Agriculture that the services of Mr. Cradwick would not be available in future for the judging of the Prize Holdings brought forth expressions of regret, and Mr. A. B. South, who spoke very warmly on the matter, moved the following resolution which was adopted: "That this Society is of opinion that it would be a great loss to the Island if the services of Mr. W. Cradwick be lost in the matter of Prize Holdings Competitions, and that every effort should be made to retain his services." Mr. Barclay addressed the members. He very clearly showed how the Branch Societies may be of use, and forcibly advocated co-operation. His address was highly stimulating and very much appreciated. At the close of the address, the Secretary brought up the matter of the jippi-jappa hat industry, in which he, the Secretary, and other gentlemen (members of the Agricultural Society) have interested themselves. Specimen hats made at the factory, were shown to Mr. Barclay. He congratulated the Company on the progress made in so short a time. That the hats shown him were highly finished and marketable and wished all concerned continued success. After the usual vote of thanks was accorded, the National Anthem was sung and the meeting terminated.—A. A. PALMER Secretary.

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Santa Cruz.—The usual regular bi-monthly meeting of this Branch was held on Thursday, 17th September, 1908, at 4.30 p.m. Apology for absence through indisposition, was received with regret from J. T. Palache, Esq., Travelling Instructor. There were present: Rev. S. T. Marson, President, in the chair, Messrs. E. V. Sauter, Vice-president, B. A. Birthwright, Treasurer, H. W. Miller, Assistant Secretary, 14 other members, a few visitors, and the Secretary. After the reading and confirmation of the minutes of last meeting, communications were read, *re* (a) the show to be held on the 9th November, (b) Mr. Cradwick's non-avoidability in other but his own district as one of the judges for the Prize Holdings Competition, and (c) the destruction of owls as pests to cul-

tivators. Matters regarding the show were thoroughly threshed out, and after receiving the opinions of all the members present, it was finally decided to hold the show on the 9th November. A decision arose as to the best place for the show. Three places were mentioned of which Gilnock was picked out, but it was afterwards found inconvenient, and the ideal commons at Northampton near Gilnock was finally chosen. The members expressed their readiness to do all they can to make the show a success, and the Secretary was directed to write Mr. Palache about the decision of the meeting, with a view to get his sympathy and help as well as other persons who may likely be interested in the Society; also the Appleton and Santa Cruz Mountains Branches to ask for their co-operation. The meetings next turned to the other communications referred to above with result as follows:—(a) This meeting regrets that the new arrangement prevents us having the use of Mr. Cradwick at our Prize Holdings Competition, but we shall be glad to have him at any time he is available. (b) The members are not aware of the destruction of owls by shooting or otherwise. In spite of the little harm the birds may do to cultivation, chiefly corn, the good done in the way of the destruction of rats, more than compensates. After further talks about show matters the meeting adjourned.—S. AUG. BLYTHE, Secretary.

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Trinity Ville.—The usual monthly meeting of this Branch was held at the usual place on Friday, 21st August. There were present: Messrs. W. A. R. Carr, President; E. A. James, Vice-president; E. S. Edwards, J. A. A. Ross, Jas. Spleen, B. Whitfield, H. E. Wisdom, Assistant Secretary; D. Bryan, and J. P. Edman, Secretary. After the reading and confirmation of the minutes of last meeting (16th April last) the Secretary explained that for the want of quorum no meetings have been held since. On motion of Messrs. Carr and James, the following gentlemen were unanimously elected members of the Society: Messrs. R. J. McLean, Edward Ashman, Henry Davis and L. A. Barrett. The financial statement was presented which showed that the Society was in good standing. The Secretary stated that he acted according to instructions and got 300 copies book of rules and receipt book printed and delivered for £1 2s.; he presented the account. He was directed to collect outstanding subscriptions to meet the bill, if sufficient not collected, however, a draft be made from the Bank. Members in arrears to be warned, "no subscription, no journal." Mr. Carr moved, seconded by Mr. Whitfield, "That owing to a Penny Bank being started in the district, and depositors withdrawing, the Agricultural Loan Bank be declared closed." This was unanimously carried. Letter from Mr. Briscoe was read and as he is late with extra work in St. Mary, it was decided to write the parent Society with regard to the change. Mr. Barclay's circular *re* the destruction of birds, was next dealt with. After a lengthy discussion it was decided upon, 1, That bird-life is decreasing in this locality. 2. The goldfinch does a great deal of harm to yam vines. 3. The parrot destroys corn, and 4, owls as a rule are not shot. Messrs. James and Carr gave notice for next meeting, that the quorum of seven be altered to one of five at monthly meetings and at committees from five to three. The President referred to the Baker Memorial, he held the same views as Sir Alfred Jones, in establishing an Agricultural College. Other speakers followed, the matter was, however, dropped. Mr. James suggested the holding of occasional meetings at Seaforth. This was agreed to. The matter of the distress of Trinity Ville and its surroundings, was next dealt with. While it had to be admitted that there is no actual starvation, but nothing with which to make money, no work in the immediate vicinity, the present coffee crop is poor, oranges are late and there is very little banana. Mr. Carr suggested that the Governor be written to, asking him to start some relief work in the neighbourhood, where the people could go to work and return to their homes without being under

the necessity of incurring the expense of board and lodging. The No. 85 Bridle and No. 11 Carriage Roads, which lead through Moffat, Mt. Derman and Marley, or the No. 10 Bridle Road which leads through Somerseset, Island Head and on to Garbrand Hall—these roads to be improved as they are at present inaccessible. This was agreed to. Meeting adjourned.—J. T. EDMAN, Hon. Secretary.

A Special Meeting of this Branch was held on the 15th September at 5 p.m. Members present were: W. A. R. Carr (in the chair) and 74 members. Notice convening the meeting was read. Mr. Barclay's letter *re* judging for the Pirze Holdings Competition was also read. Mr. Carr led off, he was strongly in favour of the local judges for which he spoke at length. Next came Mr. Edwards, who was not in favour of the suggestion from the parent Society. A lively discussion followed in which nearly all present took part. Mr. Carr moved, seconded by Mr. Morgan, "That the judging for the Prize Holdings Competition be done by the local Instructor for the Parish and local gentleman or gentlemen." Messrs. Edman and Edwards moved, "That in view of the difficulty to procure judges for the Prize Holdings Competition due to Mr. Cradwick's confinement to works in his own district, this Society enters its protest in the suggestion, that some local gentleman or gentlemen could accompany the local Instructor and help with the judging, but would suggest that an Instructor of a neighbouring parish accompany the said Instructor." Put to the vote, the latter resolution was carried by a majority of 13 votes. Read Mr. Barclay's circular, "no subscription, no journal." This was discussed at last meeting. Read copy of letter to His Excellency as directed at last meeting, and a reply stating the letter will receive consideration. Meeting adjourned.—J. T. EDMAN, Hon. Secretary.

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Glengoffe.—This Branch met on the 28th August in the Grateful Hill schoolroom for business, in which the members displayed the liveliest interest throughout. There were present, Rev. Caleb Reynolds president, and fourteen members. Messrs. R. Neita and E. Reid became members. A letter from the office of the *Daily Telegraph* suggesting the raising of funds to aid in the erection of a memorial to the memory of the late Captain L. D. Baker, was presented by the Secretary. The matter was very impartially discussed, and received sympathetic expressions from some members. All recognized the boon the banana trade has been to Jamaica and also to Captain Baker. The discussion closed with the following resolution:—"In view of the fact that Captain Baker amassed his fortune in Jamaica, but on dying bequeathed nothing for the support of any benevolent cause in the Island, this Society does not feel itself called upon to contribute to a memorial fund whose object is to perpetuate his name." A letter from the Secretary of the parent Society dealing with the destruction of owls, and of birds generally, was presented. The members were not aware of the destruction of owls. Birds are decreasing, due mainly to the deforesting of the land. The members pledged themselves however, to discourage juvenile destruction of birds. The most destructive birds are blue-birds and goldfinches. Another letter from the Secretary of the parent Society dealt with Mr. Cradwick's work upon his return. The Secretary was instructed to ask that as soon as the genial, untiring instructor returns, refreshed in mind and invigorated in body, he be directed to this Branch to assist in the making of definite arrangements for a show, which it is contemplated to put through next March. An account was next presented from Mr. Harris of Hope Garden, for boxes and bags. The Vice-president and Secretary were asked to dispose of the boxes, while the latter was instructed to forward the amount in hand. Many complaints have lately arisen concerning damages resulting from the way in which the Parochial reads have been

worked. This, therefore, formed an item on the agenda. The Secretary stated the result of an interview which he had with the Superintendent of these roads. The meeting passed the following resolution :—“ In view of the damage caused in this neighbourhood by the cutting of side drains on Parochial roads into cultivated lands, this Branch respectfully asks the parent Society to make such representation to the Government as will prevent a repetition of these damages through the action of irresponsible persons.—A. P. HANSON.

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Porus.—The regular monthly meeting of this Branch was held in the Church of England Schoolroom on Monday, September 7th, at 5.30 p.m. Present : S. A. Hendriks, Esq. in the chair : Rev. W. B. Esson, Messrs. W. A. Morgan, M. Forrest, Thos. Morgan, J. A. Simon, W. T. McPherson, J. T. Palache and the Secretary. The minutes of the last meeting were read and confirmed. The first business considered was Mr. Morgan's scheme which the Instructor thought likely to be a good one, and worth talking over from time to time, but before being taken up it required better cultivation of the soil to become more general. The Instructor referred to the Agricultural Loan Bank and its usefulness, and how it would serve its purpose in such a scheme. He further said that if the people would only co-operate to get good barbecues and good equipment so that they could manufacture their coffee better, if they would carry out decent principles of agriculture in curing and manufacturing, they could command a better price abroad. He instanced the Swiss peasantry in their method of co-operation. He recommended the planting of the jippi-jappa plant in some places. The Instructor was asked what it was best to do to prevent corn being pulled out by rats. He suggested soaking in a solution of bitter bush the night before planting. A member also suggested putting a piece of aloes on the corn. The matter of the destruction of birds was then dealt with. It was thought that black sparrows and goldfinches did great damage to corn, yam and peas. It was considered that bird life around Porus was on the increase. The Instructor then gave an address, and specially referred to Loan Banks. It was considered that the time had come when this matter should have more consideration. The members of the Society thought that the amendment of the taxation law passed in the Council would be a serious means of impeding the Prize Holdings Competition, and would altogether have an injurious effect on agriculture.

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Stewart Town.—A special meeting of this Branch was held on Friday evening, the 11th September. The Hon. and Rev. W. M. Webb presided. There were twenty members present, and a few visitors, including Mr. Arnett, the local Instructor. In reply to a question asked by Mr. Samuel Barnett at the last monthly meeting with reference to the payment of taxes for separate holdings, the President stated that the object of the Law is to clear up a doubt on the part of the Collectors. In time it will work out all right. We in Trelawny pay more taxes than some of the other parishes, but we get the benefit of the taxes we pay. The subject of the Prize Holdings Competition was brought up for discussion, but on the suggestion of Mr. Arnett, it was agreed that the matter remain over until a letter from Mr. Barclay on the subject is received. He, however, explained it so that the members may be able to discuss the matter intelligently when it comes up again. The President explained his view of the matter. He was in favour of one of the other Instructors being associated with the Instructor for the district. He was against any large sum of money out of our taxes to be spent on the Competition, although he would like to see the Prize Holdings Scheme a success. The object of a small settlers' agricultural show in connection

with the Branch was brought up for discussion ; and it was moved by the Secretary, seconded by Mr. Thomas Moreland, and unanimously carried : " That the Show be held on a time to be fixed later on, at Woodlands, which the Hon. and Rev. W. M. Webb would be willing to place at the disposal of the Branch for the purpose. In the meantime the members must prepare for it. The Secretary read a letter from Mr. Henry Wiggan of Gibraltar, asking the Branch to recommend him to the authorities as a competent person to fill the position of District Constable for Barnstaple Mountain, Broadleaf, and Jack's Lodge. The Secretary was instructed to write informing Mr. Wiggan that the Agricultural Society had no power as yet to recommend any person as District Constable—the Prædial Larceny Law not yet being in operation.—J. JOHNSON, Secretary.

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Hector's River.—The meeting which was held at Belle Castle on the 5th September, 1908, was opened with prayer by the Rev. W. P. Sibley. The minutes of the meeting of the 1st August were read and accepted with one amendment. The Secretary read letters from Mr. Barclay requesting the members to discuss the question of the " Destruction of Birds, and whether bird-life was decreasing in this locality." The discussion was laid over for next meeting for want of time. Letters and telegrams were read from Messrs. Evans, H. A. Somers, and L. A. Wates, in which they gave reasons, and expressed regrets at not being able to attend and officiate as asked at the show and the presentation of Certificates. Letters applying for the position of Teacher were read from the Secretary of the Glengoffe Branch and from Miss E. Latibodier. The Secretary had much pleasure in informing the members present that since we last met he had made enquiries and had found suitable quarters, and also a suitable classroom. The President then moved the following resolution, which was seconded by Mr. Matthew Henry, that the Secretary having laid before the meeting letters from the Secretary of the Glengoffe Branch and Miss E. Latibodier: resolved, that he finds out Miss Latibodier's terms, her wages per week, hours of instruction per day, who bears her travelling expenses, etc., and that a special meeting of the Board of Management be called as soon as her reply is received. The name of L. A. Wates, Esq., of Elmwood, was proposed and accepted as a member. We are having refreshing showers especially at nights. The pimento crop is rather late this year, the bulk of it is just coming in ; but here and there some trees are just blossoming.—E. JACOBS, Secretary.

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Guy's Hill.—The regular monthly meeting of this Branch was held in St. George's schoolroom, on Thursday, 20th August. There were thirteen members present, also the Rev. S. Negus of Vere, and Mr. Robert Thompson of Benbow, as visitors. Mr. R. T. Thomson was voted to the chair in the absence of the President and Vice-presidents. After the reading of the minutes, the Rev. Lewis, Chairman of the hat committee, reported on the work of the hat class, and called on the Secretary to present a financial statement. The report was adopted, the members present expressing satisfaction at the work they had seen done by the pupils. On the suggestion of the Rev. Lewis, some members who had not yet guaranteed anything to help the hat industry, did so. A discussion in having a model garden in connection with the Society followed ; but as the spot for the garden could not be decided on, the matter was deferred for next meeting. The possibility of having a loan bank and a show was discussed, and the decision arrived at was, that those questions had better be laid off till the Society grows stronger numerically and financially. A letter from the parent Society with regard to bird-life was read and discussed, bringing out the opinion that owls were helpful rather than harmful, that goldfinches were hurtful, as they do much damage to cultivations and should be destroyed. There was a difference of opinion

about sparrows. Most of the members who joined in the discussion thought that woodpeckers should be spared as they likely do more good than harm, killing many insects that are hurtful to the bark, etc., of trees. It was the general opinion that bird-life is on the decrease in the Island. One member wanted to know whether it is possible to get seedling canes from the parent Society, or the Botanical Garden at Hope, and the Secretary was asked to write to the Director of Agriculture on the subject. After words of encouragement from the Rev. Negus, the meeting closed.—W. E. WATSON, Secretary.

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Lititz and Nain.—A meeting of this Branch was held in the Lititz schoolroom on the 8th September. There was a fairly large turn-out of members. The Chairman desired an explanation of the proposed amendments to the Prædial Larceny Law, but the Instructor, Mr. Palache, regretted very much how it was not possible for him to give just the information needed, as he had not yet received a copy of the new Law. The Prize Holdings Competition was fully explained by the Instructor, and in an able and telling manner he urged upon the members and friends, the good of competing though they have been passing through a very trying time, as far as the rains were concerned. The following resolution was then passed:—That the Secretary writes to the General Secretary for a supply of guinea corn seeds and Havana tobacco seeds, for the purpose of distribution as far as possible, among the members of the Lititz and Nain Branch. The next meeting will be held both at Lititz and Nain, on the 6th prox., when the Instructor will attend both places.—P. F. HUTCHISON, Secretary.

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Above Rocks.—The regular monthly meeting of this Branch was held in the St. Mary's School, on Friday, September 18. The day was a very rainy one, and the meeting did not start till some time after the usual hour. There were six members present, also W. L. F. Vassall, Secretary. After the confirmation of the minutes, the Secretary explained that owing to the illness of the Vice-president and of the President, the committee appointed at the last meeting could not meet; and the matter was left over for next meeting. Letters from Mr. Barclay were read and discussed. The judging of Prize Holdings was the matter chiefly dealt with, and all the members took part in the discussion. The result was, that the meeting expressed regret at the decision of Mr. Cousins, and hoped that he would see his way to allow Mr. Cradwick to assist the local Instructor in judging as heretofore. Among the reasons for this, were the following:—Mr. Cradwick understood the business better than any one else, and therefore the idea of the Prize Holdings would be better carried out. Mr. Cradwick would be able to give valuable hints to the planters, which the local Instructor might have overlooked. "Two heads are better than one." It will be extremely difficult, if not wholly impossible, in some districts, to find local gentlemen who are both capable and willing to give the local Instructor valuable assistance. With a local gentleman judging among persons whose methods and industriousness he well knows, there may be some tendency to award marks by previous knowledge than by direct results; and be the marking ever so fair, there is often left room for doubt, and for the charge of unfairness and partiality. In this statement there is no imputation on the honesty of the judges, who are at present not even known. But the prizes are from the public funds, and the greatest care should be taken in awarding them, that no cause of complaint be given to the public. With different judges in different parts of the Island, there would be no strict comparison between the holdings through the Island, and a holding to which the judges in one place award say 80 points, may be inferior to another to which

other judges award say 60. In judging in different parts of the Island, Mr. Cradwick has an opportunity of observing various systems, and gaining valuable experience which he can impart to cultivators in other places. For these and other reasons, the Society feels that the scheme would suffer by the withdrawal of Mr. Cradwick. At the same time the members feel that if retrenchment or any other insurmountable reason prevents Mr. Cradwick from attending to the judging of holdings, they shall be willing to submit to the plan the Director has outlaid. After a few other matters were dealt with, the meeting adjourned. The next meeting will be on the 16th of October. There is plenty of rain, and the cultivations are looking well. There is, however, a scarcity of provisions. Yam is scarce and dear; breadfruits are late; sugar sells at 7½d. a quart, and is scarce. Potatoes are fairly plentiful. The sale of jippi-jappa hats is slow, and the price down. This is given as the chief reason for the scarcity of money. The new Post Office recently opened here is doing well, and a great help to the district. This is the first improvement towards the general improvement the district so badly needs. There is much more still to be done.—W. L. F. VASSALL, Secretary.

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St. Thomas-in-the-Vale.—The regular monthly meeting of this Branch was held at Bog Walk schoolroom on Wednesday 16th September. There were present: J. H. McPhail, President, seventeen members, and the Secretary. Referring to the death of Mr. J. H. E. Hemans, which took place since the last meeting, Rev. J. Graham moved a resolution which was seconded by Mr. Ainsworth, in expression of the great loss the Society had sustained; and the Secretary was instructed to write a letter to his widow conveying condolence from the Society. The meeting adjourned for five minutes as a mark of respect. A letter from the *Times* re the Holland Prize Holdings Competition was read and tabled. It was agreed for a special general meeting to be held on the 30th instant, when Messrs. Barclay and Hirst would be in the district, to discuss the probability of holding a show early next year. It was also agreed in the event of a show being held, to obtain Mr. Constantine of Bybrook's permission of the old cricket ground at Bybrook, and to solicit his co-operation. There was a discussion on the proper cultivation of sweet potatoes. Mr. J. Martin of Berrick gave helpful hints. Mr. Dillon brought up the subject of rat extermination, and a lively and interesting discussion took place. It was decided to take up the matter again at a later date, as at present it was all experiment. Mr. H. St. J. G. Clarke was elected a Vice-president of the Society. Weather here is at present fairly even. The orange crop this year has been rather late owing to droughts. First fruits were, however, ordinarily good. Week by week better ones are coming in, and as fine seasonable rains have been falling since the second half of the year began, it is evident that the latter part of the crop will be as good as at any time in the past. During last week 1,690 stems of bananas were shipped from this station.—G. R. PALMER, Secretary.

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Bull Head.—A meeting of this Branch was held at Mount Carmel, on Wednesday, September 16. Twenty members were present. In the absence of the President, the Vice-president, Mr. Thomas Robotham, took the chair. The minutes of the last meeting were read and confirmed, and on a few points arising out of them, a brief discussion followed. Mr. Reeves asked for certain information in regard to cocoa-growing and curing, which he would like to have at next meeting. The Secretary's letters were read asking certain questions about birds, also asking the opinion of the Society with regard to certain new schemes for judging in the Prize Holdings Competition. First, in regards Birds.—Letter dated 18/8/'08. 1. Owls should not be killed. The very little harm they do is far outweighed by the amount of good they effect by destroying pests especially rats. They are never killed here. 2. Birds are decreasing in

this locality, and those that do most harm to crops are sparrows, parrots, and goldfinch. Second, in regards Prize Holdings, dated 29/8/'08.—The Society regrets that Mr. Cradwick's services cannot be had in this direction as heretofore; but providing a universal system of marking is adopted, this Society sees no reason why some competent local gentleman or gentlemen, may not be appointed by the Branch Societies to accompany the Instructors for the districts in judging. Third, *re* Subscriptions, 12/9/'08.—This Society is enforcing the rule, no subscription, no JOURNAL. The Secretaries of the local committees of Brandon Hill and Mahoe Hill gave reports of meetings held during the past month. In a lengthy paper written by Mr. Theophilus Turner, and in his absence read by Mr. E. Wright, many useful points were brought out in regard to stock rearing, especially in the Bull Head districts. Mr. Cecil Robotham's paper on "How to improve the Future of the Bull Head districts," was a good one. He showed that to have this desired improvement, we should have among other things, education, unity, and better knowledge of, and more regard for the right principles of agriculture. After some discussion, a hearty vote of thanks was accorded each of these gentlemen for their splendid papers. At next meeting Mr. E. Wright will outline a plan, whereby a small holding of about three acres may be most profitably divided and kept; also Mr. A. Armstrong will open a discussion on the benefits which upper Clarendon will derive from the Branch Railway to Chapelton. After a few more important points were dealt with, the meeting adjourned until the 7th of October.—E. A. TOMLINSON, Secretary.

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Mcho and Brixton Hill.—A special meeting of this Branch was held in the St. Paul's schoolroom, Mcho, on Monday evening, 14th September, 1908. There were present, A. A. Green, Esq., President. Mr. T. T. Williams, Vice-president, and Mr. J. Hirst, Agricultural Instructor, nineteen members and a few visitors. The minutes of the meeting held on the 14/5/'08 were read and confirmed, and Rev. C. H. Baker emphasised the necessity of destroying rats, they being great pests to the planter, and a medium of disseminating disease. Mr. John James was unanimously elected a member of the Branch. Letters were read from the Secretary of the parent Society *re* (a) special general meeting of the Society, (b) suggested change in judging for Prize Holdings Competition, (c) destruction of birds and owls. These three matters were carefully discussed. With reference to judging for Prize Holdings Competition, the President, Rev. C. H. Baker, Mr. Hirst and others spoke strongly against the suggested change. The meeting felt that to get the best results from these competitions the plan in force should be adhered to, or that one man, Mr. Cradwick preferred, would be appointed as judge. The following protest was unanimously agreed to:—This Society views with concern the proposal to discontinue the services of Mr. Cradwick as judge of the Prize Holdings Competition except in his own parishes, and desires to enter a very strong protest against the proposal for the following reasons: (1) The value of the Competition will be greatly diminished unless there is uniformity in the judging, and this cannot be secured with different judges at different times. (2) Mr. Cradwick knows the work probably better than any man in the Island, and the Society is convinced that these competitions are doing a great deal of good, and will do yet more, and it would be unwise at this juncture to run the risk of a set back. (3) The Society feels assured that Mr. Cradwick would not allow his own work to suffer, and that he can so plan his work as to take in the judgments. As an alternative, the Society feels that one man should be appointed to this post, and that the one man for this position is Mr. Cradwick. Rev. C. H. Baker was asked to represent the Branch at the special general meeting to be held on the 17th inst. This he willingly consented to do. The destruction of birds came in for a very lengthy

discussion. Many of the members were dead set against the goldfinch and the jack-sparrow. The latter they say does great damage to peas and beans, especially yam-heads when exposed, tobacco seeds, etc. The goldfinch is very troublesome to growing yams. It cuts the young and tender stems, and thus checks progress. By hanging bits of cloth about the yam patch it can easily be scared. The petchary is another destructive bird. It destroys bees. This shows he is an insect-eater, and should therefore be properly treated. Those who spoke on the harmfulness of these birds were not prepared to say they were of no use. They had not noticed them carefully. The birds did good; but whether the good outweighed the evil or *vice versa* was not known. The scarcity of bird-life in Jamaica accounts for the prevalence of so many different kinds of insect pests. After the discussion, all present felt that steps should be taken to prevent the reckless destruction of small birds by thoughtless children in support of Mr. Barclay's argument in favour of owls. Rev. Baker said he found an owl's nest some time ago and in it was a very large number of the skulls and other bones of rats and mice. Mr. Hirst reminded members of the Prize Holdings Competition which would come off early next year, and urged intending competitors to begin at once to prepare for their examination. The jippi-jappa hat industry was brought up again. Mr. Hirst said the fee would be about one shilling per week for 12 weeks. Messrs. Hirst, Binns, and Lloyd were appointed to find out in the upper districts, and Rev. Baker and Messrs. Francis and Rhoden in the lower districts, those who are willing to pay the fee to learn the industry, and to report at next meeting. Rev. Baker congratulated the members on the good attendance—the best since the year—and urged on them the necessity of regular attendance. The day of meeting was changed from the Thursday to the Tuesday before full moon in each month. After dealing with a few minor matters, the meeting adjourned to the 6th October.—J. A. RHODEN, Secretary.

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St. George's.—The monthly meeting of this Branch was held in the Court House, Buff Bay, on Saturday, September 12, 1908. There was a fair attendance of members, Mr. T. C. Geddes, President, being in the chair. The minutes of the previous meeting were read and confirmed. The Governor's reply to the resolution *re* Merrick's Charity was read, and it was agreed to wait for the result of the Committee appointed by the Parochial Board to investigate the matter; at the same time the Society expressed its willingness to co-operate with any other body in this matter. Read letter from the Editor of the *Daily Telegraph re* the Baker Memorial Fund. Mr. S. S. Steadman proposed that the letter be tabled, which was seconded by Mr. A. E. A. DaCosta. An informal discussion took place and Mr. Geddes proposed as an amendment, seconded by Mr. Russell, that we should endeavour to do our best for the Memorial. Upon being put to the meeting, the amendment was lost, and the letter was tabled. Read letters from parent Society *re* "Birds," and withdrawal of Mr. Elworthy as Instructor, etc. It was agreed that the shooting of owls was not prevalent in this district; also that woodpeckers did a great deal of damage to crops, and was protected by the Government. Several large planters have noticed that woodpeckers destroy cocoa pods. Bird-life in this part is decreasing, and the chief causes are mongoose and deforestation. The *Times* letter *re* an interesting Competition was read, and it was agreed to refer to Mr. Cradwick when he returns to the Island. Mr. W. G. Russell proposed that we should hold a show next August. He said we had plenty of funds, and a show is the life and being of any Society. He thought that the preliminary arrangements should be made at once, and that it should be made public in the district by posters in order to let the people know to get exhibits ready. Rev. U. J. Thompson seconded, and it was agreed to form a Show Committee.—U. JACKSON, Secretary.

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No. 11.

BOARD OF MANAGEMENT.

As there was no business of pressing importance in the month of October which could not be dealt with by circulation of papers amongst Committees, the usual monthly meeting of the Board was not held. The next meeting of the Board of Management will be held on Thursday 19th November.

SPECIAL GENERAL MEETING.

A SPECIAL GENERAL MEETING of the Jamaica Agricultural Society was held on Wednesday, 17th September, at the office of the Society, No. 11, Parade, Kingston, at 12.30 p.m.

Present :—Hon. H. H. Cousins, Deputy Chairman, presiding, His Lordship Bishop Collins, Hons. L. J. Bertram, R. P. Simmonds, Messrs. D. Campbell, A. W. Douet, E. W. Muirhead, Joseph Shore, Rev. C. H. Baker, representing the Mocho and Brixton Hill Branch, Eugene Spence, representing Lucky Hill Branch, Capt. Eves, H. T. Rushie Grey, C. A. Magnan, and the Secretary.

The Secretary read minute from the half-yearly general meeting held in June, appointing the present meeting to be held for the special purpose of revising the rules of the Society. The rules were then taken *seriatim*.

The Rule stating the object of the Society was inserted as Rule 2. The existing Rule 2 was made Rule 3, and the words, "Nominated by the President" after Deputy Chairman, were deleted.

The existing Rule 4 was made No. 5, and the word "triennially" inserted instead of "annually," dealing with the election of the Board.

The paragraph after the words "Standing Committees," dealing with the duties of the Deputy Chairman, was deleted.

Several other minor alterations were made in the Rules following.

After By-Law No. 17 the following was added :—Such alteration to be subject to confirmation at the next general meeting.

The Darliston Branch suggested that the Agricultural Instructor should be on the Managing Committee of each Society. This was agreed to and added.

The Ocho Rios Branch suggested that the name of the Treasurer should appear on the list of officers. The Secretary was accordingly instructed to add Treasurer to his designation wherever printed.

There was also a suggestion from the Ocho Rios Branch that By-Law 15 should be embodied in the Rules, as part of Rule 13, but this was not adopted.

The Rules of the Society as revised are as follows :—

1.—The name of the Society shall be “THE JAMAICA AGRICULTURAL SOCIETY.”

2.—The object of the Society shall be the promotion and encouragement of Agriculture in all its branches.

3.—The Society shall consist of a President who shall be the Officer administering the Government of the Island for the time being, two Vice-Presidents, a Deputy Chairman, a Board of Management, a Secretary, Treasurer, ordinary members elected by the Board, and affiliated Branch Societies.

4.—The offices of Secretary and Treasurer may be combined and held by one person if the Society in general meeting so determine.

5.—With the exception of the President and the Secretary, all the officers shall be elected at a General Meeting triennially. The duty of the Deputy Chairman shall be *inter alia* to preside at meetings of the Board of Management in absence of the President or Vice-Presidents, and to convene and preside at meetings of standing committees.

6.—The members of the Legislative Council for the time being shall be ex-officio members of the Society, under the title of honorary directors, and eligible for election to the Board of Management.

7.—The Board of Management shall consist of the President, the Vice-Presidents, the Deputy Chairman, and fifteen members of the Society elected as above, and shall be the executive body of the Society, charged with the general administration of its affairs and funds. Five shall be a quorum. It shall conduct the affairs of the Society, make by-laws for the regulation of the relations with its Branches, and deal with matters not covered by the rules. It shall bring forward in general meeting the routine business of the year, introducing any business which it may think advisable, and shall be entrusted with the carrying into execution of such matters as may from time to time be referred to it by the Society in general meeting.

8.—The Board may elect members to temporarily fill vacancies in its number, or among paid officers of the Society, and shall report all such elections to the next general meeting.

9.—Any person nominated by a member of the Society shall be eligible for election as a member of the Society.

10.—The election of members of the Society shall be by vote of the Board.

11.—Members shall not enjoy any benefits or privileges of the Society until they are enrolled under Rule 14 of the Society, nor subsequently when their subscription is in arrear for three months.

12.—The name of any member whose subscription is six months in arrear, may be struck off the roll of members, by order of the Board of Management.

13.—The year of the Society shall be the official financial year, April 1st to 31st March.

14.—The annual subscription of members shall be four shillings, and shall be due in April of each year in advance. Members elected during the year shall be enrolled on payment of their subscription.

15.—The Treasurer shall collect subscriptions and issue receipts from a book of printed forms consecutively numbered in print with duplicates numbered in like manner.

16.—Two general meetings shall be held in Kingston or elsewhere each year, one in January and the other in July, at which any member of the Society can bring forward for discussion any agricultural matters of interest or of importance.

17.—A concise half-yearly report, under heads to be decided by the Board of Management, shall be submitted and read to the general meetings by the Secretary. The annual financial statement of the affairs of the Society shall be submitted to the general meeting in July by the Treasurer.

18.—Fourteen days notice of the date fixed for a general meeting, shall be sent to every member, and ten members shall form a quorum. Any general meeting may adjourn as often as it thinks fit.

19.—The Board may at any time and on the requisition in writing of at least ten members of the Society, shall within thirty days from the receipt by the Board of such requisition, call a special general meeting of the Society.

20.—Fourteen days notice of the time and of the object of every special general meeting shall be sent to every member, and no other business than that of which notice shall have been so given, shall be entertained at such meeting.

21.—Ten members at least shall be required to constitute a special general meeting.

22.—No alteration of these rules shall be made except at a general meeting or at a special general meeting called in accordance with Rule 19, and except two-thirds of the members present at the meeting vote for such alterations.

23.—Voting by proxy shall not be allowed except when the Board of Management shall submit to each Branch Society some definite question, for discussion, when each Society shall be furnished with one voting paper, which shall count as a proxy vote in deciding

the question. Such voting paper must be in the hands of the Secretary forty-eight hours before the meeting at which it shall be used, or in default shall be void.

24.—The accounts of the Society shall be subject to audit by the Government Audit Officer, whose reports shall be referred to the Board through the finance committee of the Society.

25.—The Board of Management shall endeavour to promote and encourage local agricultural societies in every way.

26.—Each affiliated local society shall be entitled to be represented by one of its ordinary members at any meeting of the Parent Society.

BY-LAWS OF THE BOARD OF MANAGEMENT.

1.—Ordinary meetings of the Board shall be held on the third Thursday of each month at 11.45 a.m.

2.—The Secretary shall issue to each member a notice of the ordinary meetings, containing the agenda of the known business coming before the Board. In the event of the Deputy Chairman and the Secretary being of the opinion that the business is not of sufficient importance to hold such meeting, and that the business can without injury be postponed till the following month, due intimation shall be given to members.

3.—The business shall be taken in the order in which it appears on the agenda paper, unless by special permission of the Board, but all postponed matter shall take precedence of new motions in the order of business.

4.—In the event of any ordinary meeting falling through for want of a quorum, a meeting may be held on the ensuing Thursday at 11.45 a.m., if in the opinion of the Deputy Chairman and the Secretary it is necessary to convene it, of which due notice shall be given to members.

5.—Special meetings of the Board may be called at any time by order of the President for the time being, on seven days' notice being given by post. The notice shall also state the object of the meeting. At special meetings no business other than that for which the meeting has been called shall be transacted.

6.—Minutes of the proceedings of the Board shall be taken by the Secretary and read at the next meeting before any other business is taken up, and if confirmed, signed by the Chairman.

7.—A statement of the position of the funds of the Society shall be made up by the Secretary to the end of each month and placed before each monthly meeting. The Secretary shall preserve all letters or other documents he may receive appertaining to the affairs of the Society, and shall retain copies of those he may write in relation to the Society's business. He shall also keep the minute books of the Board and of the committees.

8.—The Board of Management shall have power to expend the funds of the Society subject to any regulations made by the Society.

9.—The funds of the Society shall be kept in a Bank in the name of the Jamaica Agricultural Society.

10.—Cheques shall be signed by the Secretary and by a member of the Board.

11.—The Board may appoint committees to report on special subjects ; such committees may be given power to add any member of the Society to their number.

12.—Three shall constitute a quorum of a committee, but the Board shall have power to fix a quorum of any other number for any committee.

13.—In the absence of a Vice-President, the Deputy Chairman shall preside in committees, and in their absence the meeting shall elect its own Chairman.

14.—If any member of the Board be absent from his seat for six consecutive ordinary meetings, without leave of absence being granted by the Board, his seat shall be declared vacant, and the Board of Management shall fill the vacant seat until the next general meeting.

15.—Any local agricultural society established for purposes similar to those of this Society, and having not less than thirty members may be admitted, by resolution of the Board of Management, to affiliation with the Society on the following conditions :—

(1) A payment to the Society of an annual subscription to be called a registration fee of five shillings accompanied with a list of members.

(2) The Secretary and the local Instructors shall be ex officio members of the managing committee of the local society.

16.—Affiliated societies shall be entitled to receive one copy of the publications of the Society free of charge for each member, and such advice, information and assistance as can be afforded by it from time to time.

17.—It shall be competent for the Board of Management to add to, alter or amend their by-laws when notice of intention to do so has been given at a previous ordinary monthly meeting, such alteration to be subject to confirmation at the next general meeting.

CARAVONICA COTTON.

IN Monte Cristo, in the most easterly part of Cuba, 1,500 feet above sea level, was last autumn planted about fifteen acres with Caravonica silk, and about fifty acres with Caravonica wool cotton. Although the planting could not be done till the first days of December, as the seeds ordered from Australasia did not come before that time, the result is most satisfactory for both varieties. The

trees have borne and are still bearing very richly. Samples of the cotton have been sent to several experts in America and Europe, and from all quarters the cotton has been praised for strength, gloss, and length of staple. By this enterprise it seems to be proved that of all kinds of cotton, known up to date, the Caravonica is the best one for planting in Cuba, as it possesses a considerable power to resist drought, storm and insect pests.

We have planted our trees at the distance of 7x7 feet, but according to our experience we will recommend planting 8x8 feet, as even at this time—in the middle of September—most trees have grown to a height of 11x12 feet, some of them are still higher. We shall have to prune them rather severely for giving them more sunlight and facilitate the picking.

After all, the enterprise seems to be a very profitable business. A new area is cleared, and when planting the new acreage—which planting is to take place in September—we shall have the great advantage of using our own selected and acclimatised seed.—CUBAN CORRESPONDENT.

This is a very interesting result. Cuba is cooler than Jamaica, and at 1,500 feet, the elevation would be equal to our 2,000 feet.

EUCALYPTUS TREES.

In spite of all that has been written about the value of Eucalyptus trees, very few are to be seen throughout Jamaica. Few trees combine quick growth with hardness and durability of the timber, as Eucalyptus trees do. There are many varieties of Eucalyptus, and some grow to a great size. We have seen 2½ year old trees 10 feet in height growing in poor clayey land. They can be grown on all kinds of soils, from the sea up to 500 feet, but will not thrive in swampy land. Eucalyptus trees are especially valuable for wind breaks, and belts of them planted on poor ridges through plantations would be valuable. The wood is excellent for fuel, and is heavy, hard, strong, and tough, so that it can be used for vehicle construction, for wooden parts of agricultural implements, wood-paving, wharf piles, and railway sleepers, if the proper varieties are chosen.

Now that a beginning has been made in re-forestation by the planting of trees on the watershed of the Kingston water supply, we should also like to see rows of trees planted along the railway, where there is a wide strip of land available for 100 miles and over, and Eucalyptus trees lend themselves better for this purpose than almost any other trees, considering their rapidity of growth, and their general usefulness. Eucalyptus trees should be planted on sugar estates especially, not only would their timber be useful as stated, but the leaves have a very valuable property which makes them useful for cleaning purposes. If a quantity of leaves is placed in a boiler and boiled, the decoction will soften any incrustation of lime which may have formed, so that it can be readily removed.

SMALL CULTIVATORS.

Many settlers have been throwing up land, especially in the long occupied red dirt soils, considering the land worn out, and they are of opinion that they cannot make a living on a few acres there, even though the places are well situated by the roadside and not far from the railway. Yet we have seen such places here made as productive as any equal area of land anywhere, through the owners having the energy and industry to apply the knowledge imparted by the Instructors. We shall take the case of five acres of rather stony red soil in rather a dry district, which a few years ago was a tangled piece of bush, with probably an acre of old coffee on it, completely thrown up. The owner having come back from Costa Rica, resolved to work this piece of land. He put up a thatched house, and cleaned out and repaired an old tank that was on the place. He cleaned out the coffee and cut back every second or third one according to space between to a stump 4 to 6 inches from the ground, and left the other long top switches to bear a little coffee for his own use, while the stumped coffee was growing a new top. A good many of the hopeless coffee roots he dug out. Then he got a couple of little pigs and put up a moveable pen among the coffee, kept the pigs well fed and bedded, and every week shifted the pen along a space so as to manure the land. At intervals where the pig pen had been, he planted bananas and plantains. He bought two goats and tied them out in the bush, but every night he brought them into a pen and fed them so as to get the manure, and he did the same with a donkey. He put up a rabbit pen, and every other day he scraped out a pile of manure. He cleaned up an acre of the land and began planting provisions. As soon as he had yams and cocoas planted, he took the manure collected and mulched them all through heavily; the patch of cassava he mulched with grass; the sweet potatoes he did not mulch at all, as they soon covered the ground and he had not enough mulch. He cleaned up another acre of land and planted peas and corn, and all between he planted guinea grass roots. When he began to sell provisions and when he was able to sell the two pigs for 30/ each, he bought a heifer; this was at first tied out in the bush to feed and brought into the yard at night and tied to various fruit trees. As soon as manure collected beneath the trees, he scraped the surplus trash off and forked round the tree. When his provisions were taken up, he planted grass there and took a crop of corn also. Then he began fencing. In three years this man was building a wooden house, he had two cows and two calves, he had four pigs, four nanny goats, a donkey, a small mule, the whole place had been cleaned out and fenced, an acre was in good guinea grass, one acre was in pasture after having had a crop of corn, one acre was in good coffee grown up from the stumps cut down, the long top being cut out as soon as others commenced to bear, and an acre was in provisions. Over the coffee for shade, waved fine bananas and plantains with heavy bunches from the

heavy manuring of the pigs. He used the acre that was in pasture one year in provisions, the next pasture and so on, and the guinea grass was cut and fed to the beasts in the pasture, so that the land then was always being heavily manured. He had heavy crops of coffee from the acre every year. The remaining acre was still uncultivated, but all through it pimento and fruit trees were growing thickly, and this piece also provided him with firewood and yam sticks, fence posts and wattles. An examination of his pass book showed that he was clearing £50 a year from the five acres, between his cultivation and his stock. By this system not only can a large quantity of stock be kept per acre, but the ground may be heavily cropped year after year; it is only a question of fallowing and manuring.

At Mandeville, Mr. Palache's one acre of red soil has grown provisions, vegetables of all kinds, flowers of all kinds, year after year on the same soil, without intermission, and it does this by being heavily manured with rabbit manure, and by rotation of crops (i.e.), Mr. Palache does not plant the same kind of crop on the same place two seasons in succession.

From the article, "Agriculture in Japan," published in last JOURNAL, it can be seen how the Japanese have been able to crop their land for thousands of years through the scrupulous saving of every scrap of waste matter that can be used as manure. By this system of having crops round the house and so always under their eye, there can be little stealing and less chances of disease.

Better stock can be raised on these small places by continual handling than the large pens can raise, and there is no reason why fine milch cows and fine milch goats should not be turned out here as by the small peasants in Switzerland and France and elsewhere. The Island of Jersey in the English Channel between France and England, is very small, yet it is famous all over the world for its breed of cows, all raised by small farmers, and which every year buyers from Great Britain and the United States go to buy, for large prices. It is also a very productive Island under intensive farming, yet nearly all the cows are raised on the rope, the land being too valuable to be turned into pasture. We take the following clipping from an American paper, telling of the visit of an agent to the Island of Jersey to buy cows and what he found there:—

"We visited the Island of Jersey a few years ago where intensive farming is followed almost to perfection. We found a farmer owning 22 acres of land and renting 10 more acres, making a total farm area of 32 acres. On this farm, at the time of my visit, there was being kept 3 horses, 16 cows, 16 calves and heifers, 1 bull, 36 pigs, making a total of 71 head of live stock. All the feed, except "Dairy Cake," was grown on the farm for this stock. In addition, a large number of early potatoes are sold each year from this farm to the London market."

With our climate and soil we can do just as well.

CACAO AND GRUBS.

Hundreds of cocoa trees in Jamaica are dying from a root trouble which is said to be caused by the attacks of a small white grub. This grub is of the same nature, if not identical, with the larvae of the orange weevil, the "Fiddler" bug. It will be remembered that large numbers of orange trees died out through the attacks of this grub years ago, and we have held that these grubs did not attack the roots of absolutely healthy orange trees, but only those that were already injured or diseased. The groves that died out from the attacks of these weevils were all in undrained soil with the trees planted too deeply. There were trees planted in close proximity in what would be considered poor soil (i.e.), rocky, but even if the trees were deeply planted there, they were on a loose, rocky hillside where there was very free drainage. Being on the hillside too, it was easy to scrape away the earth from the necks or collars and leave the roots well exposed. We know groves of such trees in which not one tree has ever died from the attacks of the orange grubs or even been injured, and they are large-spreading trees now. We know other groves where the trees planted at first too deeply, when beginning to die one by one, were promptly opened up at the necks and left exposed, and at once the trees began to revive so that evidently the insects discontinued their attacks. No trees have died since this operation was carried through and the groves were well drained, although the necks of the trees are still 3 to 8 inches below the level of the soil, but the earth is 3 or 4 inches from the stem of the trees. We know other groves badly planted at first but standing in sandy and gravelly soil, which have never been troubled by the attacks of the grub; and it is strange that we do not hear now of orange trees dying from the effects of this grub, simply, we think, because the orange groves have all been attended to in the direction of drainage, and the necks of the trees have been cleared of earth. Deep planting, bad drainage, and damaging the tree roots by rough forking and ploughing, are responsible for rotting roots and the attack of grubs.

Now we are hearing of numbers of cocoa trees dying out, and the blame is all put on these grubs. It may be so, and we shall not be dogmatic about it, but in the light of the lesson of the orange trees so troubled, we think that every cocoa planter should first see to the opening up of the trees around the neck, and see to a system of deep drainage being carried out. Drains a foot deep are of little value; they must be at least two feet to do any good, and even deeper to three and four feet in stiff soil and low lying places. If this is done we expect we shall hear little more of the attacks of grubs. Small doses of lime spread over the soil in the radius of the trees, will do good, but is not entirely effectual if the trees are badly attacked. One way to get rid of the grubs so as to kill them wholesale is by the use of Bi-sulphide of Carbon. The use of this has been often described in the JOURNAL. We have used it regularly.

for 10 years back to kill weevils in grain and the ants which make nests at the roots of fruit trees. It is a volatile gas, heavier than air, so that when applied on the top of a barrel of corn or on the top of an ant hill, or around the roots of trees, it sinks and kills all animal life below, within limits of course. To apply this to a cocoa tree or to every cocoa tree in a plantation is a big operation, and a doubtful one, because a few drops of it are not guaranteed to kill the grubs through the whole soil radius of a cocoa tree, and too much of it may damage the trees. It can, however, be tried on trees that are thought to be attacked by beginning a yard out from the trees and at intervals round each tree, ramming the fork in the soil, then dropping a few drops of the Bi-sulphide in the hole made by the prongs of the fork, drawing earth over the holes at once. Some practical cultivators may have found out a better way than this ; it is likely, and if so, we shall be glad to hear of it.

Look to the drainage and the position of the trees in the soil is our first advice however.

A PLEA FOR THE OWL.

For generations a merciless war has been waged on all birds of prey. The accumulated result of this policy is seen in an excessive increase of rodents, such as rats and mice, and of the smaller destructive birds, especially the irrepressible sparrow. Nature has always provided a remedy for the excess of harmful birds and animals, but man, in his "superior knowledge," has interfered with the natural provision by the slaughtering of the useful birds and beasts of prey. The absurdly excessive preservation of game has lain at the root of the blind policy of extermination. Gamekeepers have taken every opportunity of trapping and shooting them without mercy, never for one moment pausing to think of their usefulness in other directions. Hawks, owls, falcons, buzzards, kites, magpies, jays, stoats, weasels, the domestic cat, and even the dog, have all been classed as "vermin," and as such have found their way to the "gamekeeper's larder"—that most revolting of spectacles. (Here I may remark that due praise and honour should be accorded to those gamekeepers who are leaving the beaten track of extermination.)

The farmer and fruit-grower are at present concerned with the rat and sparrow problem. Shooting clubs have been in vogue in certain districts for some time, and now the Incorporated Society for the Destruction of Vermin is offering prizes for the extermination of rats and sparrows in districts where they have become serious pests. We all recognise that a plague of rats and sparrows must be kept in check, but the actual extermination of any kind of bird or animal life is a doubtful policy. The case against the rat as a disseminator of disease is said to be complete ; but a good word can possibly be said even for him as a scavenger. The case of the sparrow is still *sub judice*. Wherever shooting clubs exist the risks involved to birds, absolutely harmless is obvious. The ordinary bird-catcher or sparrow shooter has no fine feelings for any birds, be they useful, harmful, or beautiful. They all come alike to his net or gun ; he neither cares nor wishes to discriminate. How many of these men, too, can be trusted to distinguish between the harmless so-called hedge-sparrow (not a sparrow at all) and the true sparrow ?

The destruction of hawk and owl, I contend, is and has been an important factor in the rat and sparrow problem. I will first plead on be-

half of all the owl genus, white or barn owl, tawny, long-eared, short-eared, little owl, etc. The useful part they play in Nature's economy is simply incalculable. An authentic instance was recorded a few days since from Devonshire, where a barn owl was observed to bring to its young in the course of a couple of days no fewer than twenty-seven young rats and mice. Someone suggested that the Incorporated Society for the Destruction of Vermin should have offered the owl a first prize for such a splendid effort. What can be said for the sanity of a man who deliberately shoots so valuable a bird as this? And yet, in how many hundreds of cases has it not been, and is it not being, ruthlessly done. No one denies that the owl does occasionally carry off a young partridge or pheasant; but these game birds are plentiful enough, surely. We can fully justify the owl's action in exacting "toll" in return for the immeasurable good it performs in keeping down rodents.

How marvellously has Nature endowed the owl for its purpose? The beautiful softness of its plumage offers so little resistance to the air that the bird's flight is perfectly noiseless. Another remarkable characteristic is the bird's apparent want of "ballast" when on the wing, tumbling and doubling in flight similar to a butterfly. Its welcome "hoot" at nightfall sounds the death knell of many a rat and mouse. A Somersetshire farmer recently told me how pleased he always was to hear the nocturnal visitor round his barn and ricks.—*London Daily Graphic*.

[The foregoing article shows how the indiscriminate slaughter of birds of prey is responsible for the great increase of birds and animals that become pests to the agriculturist.

We are likely to have the same experience here as far as rats, bats and field-mice are concerned. Corn, peas, and such seeds as pumpkin, cucumbers, and melons, when planted, are eaten up wholesale by rats or little mice. The ripe coffee on the trees suffers greatly from rats, the increasingly valuable cocoa crop suffers much from the depredations of rats, and just as much, it is held by some, by rat-bats. Rats are bad enough, but they are blamed for much of the damage done by rat-bats. When you see cocoa beans at the foot of the trees you may take it that it is rats that have been at the cocoa pods, but if you find your cocoa pods eaten into and the seeds taken away, that is the work of rat-bats.

Owls are the great checks on rats and bats and should not be killed on any account. Hawks are of little account in this way, as they only fly by day, and their food is only small birds and mostly the kinds that are our friends. They may vary their diet by searching for harmless tree frogs.

The various Branch Societies at our request, have discussed the whole matter of bird-life in its relation to the agriculturist. We are glad to note from their reports that the members have realised that the owl is our friend, and we trust that over the length and breadth of the Island the publicity given to this subject will be impressive, for unfortunately we have had demonstration in our travels that the owl is shot, and not uncommonly.

The only birds that received unanimous votes against them were the Jack-Sparrow or Black-Sparrow, the Goldfinch and the Paroquet, as they destroy yam-buds, and the last named destroy corn. In nearly every district the report was that bird-life is decreasing. Some said that deforesting, and the disappearance of wild uncultiva-

ted stretches of land were responsible, some said mongoose, but most said the small boy with his catapult, was most to blame. Only one said a word against the "John Crow."

Now deforesting is not the great cause, as most of our birds do not haunt the forest—the thick woodland is a sombre and silent place, and our most common birds like the open, and if not destroyed by enemies would be frequent around houses. We know this from experience.

The mongoose, if any one just reflected a moment, cannot be responsible for the loss of tree birds—and we do not think he is as much responsible, as he is usually held for the scarcity of ground birds, for if the birds of the air are scarce through any reason, the same reason would apply to ground birds.

The true reasons are, that formerly there was large estate upon large estate, bounding one against the other all round the Island, all in good working order, and so kept strictly private, with as a rule belts of woodland on all the steep hillsides. Then guns were dear and owned only by a few, there was plenty of room for birds to breed undisturbed everywhere. Now hundreds of large properties have been broken up and sold out in small areas, there are settlements of people all over the Island, and many of the large estates now rent out parts of their back lands, especially those hillsides that were formerly woodland and thicket. Guns are now so cheap as to be within the reach of everybody. So that people are everywhere, small boys are everywhere, guns are everywhere and catapults are everywhere, and between the gun and the catapult destruction is everywhere. In addition there is better sanitation, and the "John Crows" unable to find carrion, have taken to robbing young birds out of the nests as well as to have become a scourge to young ducklings, and also to a smaller extent chickens. But these birds are usually thought to be about their business as scavengers and their depredations are not observed.

If ministers and teachers were to counsel a better respect for the birds that are our friends, they could do much to stop the indiscriminate destruction that goes on.]—ED.

PRICES OF PRODUCE.

I.

The Newmarket Branch Agricultural Society sent the following resolution to the Board of Management for their consideration:—

Moved by Mr. John Wallace and seconded by Mr. H. T. Atkinson:—

That this Branch views with grave alarm, the very fraudulent and suicidal method adopted by a large majority of our peasant proprietors in the handling and curing of their agricultural products for export; and also learns that a large section of the produce dealers (middle-class men) wilfully and fraudulently purchase and sell such uncured and unclean produce to the detriment of the trade.

It is therefore resolved that the parent Society be asked to obtain an expression of opinion from all the Branch Agricultural Societies and also from the leading export merchants with a view to ascertain as near as possible the condition of our exports when opened up in the markets of the United Kingdom, the United States of America, and the Continental ports.

This Branch also suggests that the parent Society issue a circular letter to the heads of the several religious denominations in the Island pointing out the immorality of persons fraudulently selling uncured and unclean produce, as it is the opinion of this Branch that many persons do not consider this source of dealing fraudulent and immoral.

This Branch also further suggests that the parent Society on their ascertaining the fact that the method of selling uncured, unfit, and unclean produce for export exist, that they move the Government to introduce an amendment to the Produce Protection Law, as will make it illegal and punishable for any person to offer for sale such uncured, unfit and unclean agricultural produce in bags, barrels or any closed packages.

* *

II.

The following letter by the Secretary of the Rio Minho Agricultural Society appeared in the *Daily Telegraph* :—

The Newmarket Branch of the Jamaica Agricultural Society has done public service by calling attention to the methods employed by the peasantry in preparing and curing their produce for foreign markets and your editorial comment on the resolution goes to the heart of the trouble.

The children in our elementary schools are taught how to cure and prepare produce for sale ; the Agricultural Instructors, co-operating with the Branch Societies, have done useful work along the same lines : and what with articles in the JOURNAL of the J. A. S., the distribution of leaflets among the people, and the efforts of show committees in offering substantial prizes for properly cured samples of such articles as coffee, cocoa, pimento and ginger, the people are becoming well acquainted with the best methods of curing their produce. At the recent Mears Pen Show, the committee asked for samples of eight quarts of cured cocoa, and in response there was a surprising large number of entries, and every exhibit was far above the average. But all these efforts are fruitless, and the reason lies in the fact that people are not going to take extra trouble and pains to do a thing to earn the same reward that less trouble and labour would bring, and as badly cured produce commands the same price as the well-cured in our local market, it pays to cure badly. It is a matter of demand and supply ; that is, if the buyers require worthless stuff, they will surely get it, and if they put a premium upon good stuff the matter will right itself ; but pains and penalties cannot with any sense of justice be imposed upon the small growers for the deficient curing.

The matter lies with the big shippers in whose lead the local buyers follow. If the big shippers would have at least two grades in the different classes of produce with say, a difference in price per 100 lbs. of 5/ to 6/, this would bring about a wonderful effect in a few years time. I would like to see something tangible done. Could not the executive of the J. A. S. circularise the big shippers and see whether they would help by making a difference in prices in the different grades of produce, and if not whether they would make public the reasons why such a course is impracticable. For if the difficulties are insurmountable, we must do away with all the efforts put forth in educating and instructing the peasants in the better preparation of their marketable produce, for I take it that those of us interested in the agricultural revival of Jamaica are practical men and not dreamers.—(Sgd.) U. THEO. MCKAY, Frankfield.

THE PROPER PREPARATION OF PRODUCE FOR THE LOCAL MARKET.

III.

This is the theme at the greater number of our Branch Society meetings. This is the supposed work of the Jamaica Agricultural Society and its Instructors. This is the text of a sermon often preached by our Ministers of Religion, our Schoolmasters, and others interested in the progress of Jamaica.

We are always saying with pious resignation, "the trouble in Jamaica is that our people will not prepare their produce properly." The merchant holds up his hands in horror and talks of the carelessness of our people, and how they are destroying the trade of the Island.

Now and again coercive legislation is talked of. Branch Societies periodically bring up the subject.

And yet we are afraid to tackle the question in an honest and thorough manner, find out the root of the trouble, and remedy it, if possible.

The question arises—Is the Jamaica Agricultural Society right in its policy of encouraging the people—the peasantry in particular—to properly prepare their produce for the local market?

Is it not rather defeating its own objects, and destroying the confidence of the people in it?

Would it not be better to leave the preparation of produce alone, and devote its energies to instructing the people how to get an increased yield per acre?

One of the chief objects of the Jamaica Agricultural Society is to promote the general prosperity of the peasantry, and to enable them to improve their financial position, through the increased knowledge disseminated by the Society.

Now, the Jamaica peasant is no fool! In fact, he is often rather a shrewd business man; and when the Jamaica Agricultural Society tells him to take greater care, and spend more time, and cure, and otherwise prepare his produce properly—he asks—why?

What answer has the J. A. S. to give him. Rather lame ones!

He, the Jamaica peasant, looks at it in this way.

If I wash the pulp off my cocoa and dry it in the sun for two or at most three days, and perhaps put it in the frying pan over the fire to finish it, and carry to the dealer, he looks at it and says—"it is cocoa, and worth so much per pound."

On the other hand, if I ferment it, as I am told to do for from three to six days, and then cure it for several more days, and then take it to the dealer, he says "it is cocoa, and worth so much per pound."

Now, in the one case I have spent very little trouble, used no appliances, sold it within a week of gathering. On the other, I have spent time and labour, provided necessary appliances, taken two weeks or more in getting it fit for sale.

The result as far as price goes is the same ; but the cash received for the first, or carelessly cured sample will be more than for the latter, for the weight is greater.

He sees plainly that to make a profit in his business, he must produce the greatest weight at the least possible expense of time, labour, and money.

When you go and preach to him the "improved" method, is he to be blamed for thinking that either you are an ignorant man without practical experience or else that you are not as truly interested in his welfare as you profess to be.

This state of things is deplorable, but it is fact.

The J. A. S. would be failing in its duty if it did not endeavour to protect the vital interests of the country, by endeavouring to improve the average grade of produce shipped from the country. If it is not improved we cannot compete much longer against our world-wide competitors. But this cannot be done by preaching to our peasant producers, under present conditions. An incentive is needed, and perhaps a corrective also.

In dealing with this matter we have to take into consideration one main factor. The bulk of the produce shipped from this Island is bought in small parcels from the many small settlers, by a large army of buyers. This army is controlled by a small number of men—perhaps six at most. By this class of produce the reputation of Jamaica is made or marred.

If there can be any improvement, it is in the hands of these few men. We must look to them, and I am sure the J. A. S. and its officers will assist whole-heartedly.

If there can be no improvement, we must still look to them for the reason why ?

I would make certain suggestions. For the purposes of local produce buying, let there be three grades, good, fair, bad, or by whatever name you like.

Eliminate the bad. Discriminate between the "good" and the "fair."

Can it be done ? Yes, from the head, but not from the tail.

As the head directs, so the tail wags automatically as it were, through an intricate yet organized system.

If the head orders that the "bad" or imperfectly prepared produce shall not be bought, in a week the order will have reached the tail, or the rank and file of the army of buyers, and in six months no more of that class of produce will be produced.

How ?

The local buyer is no fool, and we have said already, neither is the Jamaica peasant. Always one as he is often said to be.

If the Kingston merchant tells his country agents that he will not accept, "bad" grade produce, they will very quickly see to it that the buyers under their control do not supply it, and these latter can be trusted. Look after the rank and file, (i. e.) the small shop-keeper and the man with the scale and bag.

Once eliminate the "bad," the average grade of the bulk must improve; and with that improvement must come increased trade, and enhanced prices naturally follow.

It may be argued, that it would create hardships amongst the producers. So it would, but only for a short time. Once the producer found his parcel of improperly cured cocoa or coffee unsaleable, he would present no more of that kind.

Most of them know how to do it properly; and the man who doesn't, would travel from one parish to another to find out how to prepare his produce in a way "that it can sell."

In the like manner and through the same agency, a discrimination in grade between "good" and "fair" can be accomplished. True, this will take a little time, and a little training, but it is wonderful when £ s. d. is at stake, how quickly the lesson can be learnt.

What has been done by the Fruit Companies, can be done by the dealers in other classes of Island produce.

If it cannot be done, then at any rate let us leave off teaching the peasantry how to cure and prepare produce, and preach what we practise. I, myself, have taken considerable pains in preparing the pimento which I have shipped for sale on my own account. I still have a small quantity left which I will have to sell locally, and with which I am taking the last possible trouble—my object being to get the greatest possible weight at the least expense—as I realize it makes no difference in the price. "Pimento is pimento."

The J. A. S. cannot in the true interest of the country leave the matter alone. There is too much at stake.

The merchant may run the business on present lines till it is no longer profitable. He can then go bankrupt, or take up a new line of business. Not so the producer. True, he can go bankrupt—so can the Island—but he cannot so readily "swop horses."

There is one way in which the J. A. S. can do some good amongst the peasant producers, and in fact is doing so. It is by encouraging the people to make barbecues and get pulpers for the curing of their coffee. This means a saving of time, and prevents much of the coffee spoiling; and there is an incentive, for the pulped and washed coffee of Manchester commands a higher price than the badly cured double husk coffee of Clarendon. Still the fact remains that until barbecues and pulpers become the rule in Clarendon, it will be of little benefit to the individual owner of such, unless he takes a far journey to sell his coffee.—J. HIRST.

DESTRUCTION OF RATS.

INVESTIGATION and test at the Government Laboratory here has not resulted in showing the various kinds of rat virus sold here to be of effect as virus—they are mostly found to be inert. There is a chance in using mild cultures—that if a rat once recovers

after being so inoculated, it may become immune. The *Cyprus Agricultural Journal* says about this :—

“The question as to the expediency of using these cultures has been affected by one important consideration. Not only is the maintenance of virulence in the microbes employed in the preparations limited in the matter of time, say to a few weeks ; but experiments have shown that when the potency of the virus is diminished, rats inoculated with it are rendered immune to virus possessing the lethal properties. Consequently it has been argued that, having regard to the output of preparations by firms interested in their sale, a standard should be established by Boards of Agriculture, and the sale of cultures falling below it be prohibited. Dates would in that case have to be affixed to all preparations issued. It would however probably be rather difficult to enforce regulations dealing with this matter. In view of the results from impaired virus referred to, special preparations have been made for use against immunised rats.

“The Danish Government took up the problem in earnest, and passed a Rat Law, which came into operation in July 1907, and which is said to have worked exceedingly well. This Government, while it has encouraged the use of Ratin, arranged to purchase rats at depots, no matter by what means they are destroyed. And it is said that far more are killed by other means than bacilli.

“The experiments that have been made with these pathogenic preparations in Cyprus by the Director of Agriculture, and others, have not, I believe, been very successful ; but they have been on a small scale. If it is agreed that steps ought to be taken against this “veritable scourge” it is only, I think, by concerted action, throughout the island, or the areas affected, that satisfactory results can be hoped for. The rats must be trapped and destroyed by all the various methods that have been recommended by the late and the present Director of Agriculture, in fact by all available means, without waiting for application of microbe preparations. Unfortunately, village agriculturists have been very backward hitherto in employing any remedies at all.

“The weight of opinion in European countries appears to favour the conclusion that the only really effective method by which extermination, or serious reduction, can be hoped for, is that the campaign against the pest should be made general, or national, that a premium per tail should be paid for. If the war waged is not of this character, it seems obvious that the area cleared must be soon restocked from those not dealt with. All means that succeed in killing rats are good. Whether you trap them, or hunt them with ferret or terrier, or shoot them, or poison them (always supposing that only responsible persons are permitted to use poisons), or slay them with a well-directed half-brick, or let loose microbes against them, is all the same to me. But all this killing and slaying must be done at the same time and throughout the whole of the country ; and knowing human nature as I do, I know that it is in vain to hope for concerted action unless there is a monetary reward for each rat proved to have been killed. A penny a tail will make it everybody's

business to kill rats, and the only way to exterminate rats is to make it everybody's business to exterminate them."

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With reference to our efforts to get rid of rats here, the following instance of effects elsewhere is interesting:—

"For some years past a campaign against rats has been conducted in Denmark. A committee was formed for this purpose in 1898, and in 1899 an attempt was made to encourage the destruction of rats in Copenhagen by the payment of a premium about 1½d. per head. A sum of £550 was raised, and the permission of the Municipality was obtained to use the fire stations as receiving depots. A sum of about 2s. a day was paid to a fireman at a station for acting as receiver. The experiment lasted from the 3rd August to the 9th December, 1899, during which time 104,000 rats were killed at a total cost of less than £750. Consequent on this example, similar attempts were made in several provincial towns and on several estates. In the latter cases the premium was reduced by about one-half on the ground that in country places the interest of every one in the destruction of rats is so great that a much smaller sum is necessary to stimulate active efforts in that direction. In towns it was found that large numbers were brought in by children and by men who were out-of-work, many of whom took to this occupation as a means of livelihood.

"The success obtained by these voluntary efforts led to a demand for legislation, and in March, 1907, a law was passed enabling rural and urban communes to undertake measures for the destruction of rats in their districts, and to provide for the payment out of the rates of a premium of from ½d. to 1½d. per rat. A sum of £1,650 is to be paid out of public funds annually for three years, of which one-third will be devoted to scientific experiments and the remainder to the purchase of poisons and destructive agents for use on the State properties or otherwise."

SANITATION OF CACAO ORCHARDS.

(From "*Fungus Diseases of Cacao and Sanitation of Cacao Orchards*," by E. J. A. Stockdale, Mycologist, Imperial Department of Agriculture. Every Cacao grower ought to have this little Book.)

WOUNDS caused by the falling of portions of shade trees or of bananas and plantains should always receive immediate attention, and all the injured branches should be removed.

All diseased pods, and husks of pods after they have been broken, should be collected and buried in piles or trenches with lime. It has been found that such procedure is productive of the best results, and should be adopted until experimental evidence is forthcoming as to the value of the suggested treatment of such pods and husks upon the surface of the soil.

Cacao should always be protected from wind. Wind-swept orchards suffer more from disease than do well protected ones. The

trees are not so vigorous. Nor do they bear so heavily. Wind belts should be established throughout plantations where necessary. Many trees are useful for this purpose, but in some cases overhead shade of bois immortal is relied upon for protection from the wind. In St. Lucia, several instances of shading with bois immortal has been productive of much good on estates suffering from "dieback," but it must also be recorded that in several localities in some of these Islands some reduction of shade might judiciously be made, for a moist atmosphere and densely shaded conditions are extremely favourable for the development and spread of fungi. It has frequently been found in some parts of Dominica and St. Lucia that the gradual removal of shade trees, or of some of their branches, has served as a factor in the control of the canker. In Ceylon the letting in of sunlight is strongly recommended, but it is necessary in the West Indies that it should be adopted cautiously, until experimental evidence is forthcoming, for quite a number of factors have to be taken into consideration.

Where cacao trees, pear trees, or other trees in the orchards die from root disease, they should immediately be removed and burned. The roots should be extracted, and burned with the stems and branches. Trenches should be dug around the affected areas, and large applications of quicklime should be given. The fungicidal properties of quicklime have yet to be fully appreciated, and the use of this substance is valuable in the control of the root disease. Drainage should also be attended to, for root disease has been noticed to be generally worse on water-logged, low-lying soils. The susceptibility of breadfruit, breadnut, and certain other trees, to attacks of the fungus responsible for root disease of cacao, would suggest that these trees should be excluded from all new plantations of cacao.

In those plantations where they are at present growing, they should be carefully watched, and when showing any signs of disease should be taken out and burned. When it is thought desirable, at any time, to cut down any of these trees, particular care should be taken thoroughly to extract as many roots as possible and to destroy them by burning.

Spraying for pod diseases has been experimented with in Ceylon, and the results warrant experiments being conducted on West India estates as a means in the prevention of similar diseases. A good trial should be given, and accurate figures of the increased expenditure incurred in carrying on such operations, should be kept for a series of years. Definite information as to the value of spraying for prevention of pod diseases would then be available, and would indicate whether such operations should be generally adopted as routine estate practices.

HONEY.

The production of honey in Jamaica is very satisfactory, and we are one of the largest sources of the over-seas supply to the Brit-

ish market. But we expect other countries to buy our honey, and we are always hoping for larger consumption abroad, yet we do not set the example ourselves, for the local consumption of honey here is infinitesimal. It has gone down instead of going up the last few years. It is rare to see honey on a table. You can buy more readily any sort of imported sweet stuff in any shop, town or country; it is rarely you will find honey kept for sale. Yet it is the best of all sweets. It is a healthier foodstuff than jam, and possesses virtues peculiar to itself. Children should be encouraged to use it in place of other sweets. We take the following from a leaflet reprinted from the *British Beekeepers' Review* on "Honey as a Food and Medicine":—

"The wisest man that ever lived advised his son to eat of honey, "because it is good," and Democritus, who lived to be a centenarian, attributed his freedom from illness and his prolonged life to partaking of honey as a regular part of every meal. Just lately we heard of a young lady, whose life was despaired of by the doctors, being spared and recovering by the regular use of honey as a food. Scientists inform us that honey contains almost all the requirements of life-supporting food, added to which it requires little or no digestion. We are also informed that its use helps the intestines and the kidneys in performing their special functions. For growing children who crave for sweets, nothing better than honey could be given. Mahomet discovered this important truth before he wrote the Koran, where he speaks of honey as "this sweet wholesome substance, which sustains and strengthens the body, which cures all maladies, a thousand times preferable to the poisons administered by the doctor to the human race." Recently a doctor declared that he cured several stubborn cases of constipation by the steady use of honey, prescribing no other medicine. In cases of nervous disorders it has been long recognised as an excellent tonic. Cuts, scratches, small wounds, chips, scalds, burns, and many similar small ills have been cured by an application of honey, or a salve in which honey formed the chief ingredient. Colds, coughs, sore throats, asthmatic irritation are frequently treated with honey. Bronchitis has been, if not cured, at least greatly relieved by its free use. Many very palatable drinks can be made from honey, and in hot summer weather no better use can be found for honey than converting some of it into a cooling and refreshing drink. Honey biscuits are pleasant eating, and should find a place on every tea-table. Honey sweets have an agreeable and appetising effect on the palate. Honey vinegar is the best and most pleasant form in which this bitter relish can be found."

THOROUGH-BRED AND PURE-BRED.

WE note the practice of using the word "thorough-bred" in speaking of pure-bred animals is becoming more common here. The Agricultural Society made recommendations to the Government that the duty on imported pure-bred stock for breeding pur-

poses should be withdrawn and this was done. But we find the Customs authorities using the word "thorough-bred" animals, and insisting on that word being used when we pass the documents for stock imported. This is a ridiculous state of matters, and as there is altogether a great deal of misconception and confusion as to the proper nomenclature to use, we publish the following explanation :

The term "thorough-bred" should be applied to no animal but a thorough-bred horse ; it is the distinct and specific name of that breed of horses. There are Hackney horses, Clydesdale horses, etc. ; and there are Shorthorn cows, Jersey cows, etc., not thorough-bred Hackneys nor thorough-bred cows. The term "pure-bred" is the proper word to use to indicate that the animal is not mixed in its breed ; such as a pure-bred Hackney horse, a pure-bred Shorthorn cow, a pure-bred Southdown sheep, a pure-bred Berkshire pig, a pure-bred Leghorn hen.

To use the term "a thorough-bred Hackney" could only mean that the animal was a cross between a thorough-bred stallion and a Hackney mare. To use the term "thorough-bred Shorthorn cow" in this light is therefore nonsense ; it would mean a cross between a thorough-bred horse and a Shorthorn cow.

"Pure-bred" is a clear, lucid, and expressive term ; it means an animal of the same type and character through many generations, belonging to one of the known breeds, and every recognised breed has its record. "Stud-book" when applied to the horse ; "Herd-book" when applied to the cow ; "Flock-book" when applied to sheep and goats.

When the parents are pure-bred on one side, such as when a Shorthorn bull is put to a common cow, the progeny is a "half-bred." If a Shorthorn bull was used on a half-bred Shorthorn cow, the progeny would be termed "three-quarter bred," that is a three-quarter bred Shorthorn.

When both parents are pure-bred, but of different breeds, such as a Shorthorn bull put to a Jersey cow, the progeny would be termed a "Cross-bred." When the breed goes further than a "quarter-bred," but is still known, the animal is called a "Mixed breed." When the breed is so mixed that it cannot be followed, we in Jamaica use the term "Common" ; for instance a "common" cow ; a "common" pig. In the United States they use the term "grade" for an animal that is partly of one particular breed, such as a grade Shorthorn, a grade Holstein, and this is a good word as describing stock that is being graded up.

FLIES IN CATTLE.

BEYOND the tick pest we have no general or malignant insect plague on our stock. We are not nearly so much troubled by mosquitoes and flies as stock-keepers are in Northern lands, and the further north the worse the insect pests are on stock, especially in lands where there is still a great extent of forest, lake, and undrained

land. But recently we have had complaints of a plague of flies tormenting the lives of cattle.

A pen-keeper in St. Elizabeth writes as follows :—

Have you or any of your correspondents had any experience of the plague of flies attacking cattle, in many cases even mane stock? I noticed their first appearance on my cattle during the severe drought of last year.

After the rains of September and December '07, the flies decreased in number, and I thought I would entirely get rid of them; but this year they have again appeared, in May, and in greater number than at first, and cause the animals very much annoyance, alighting just behind the shoulder blades where they cannot be removed by the animals' tongues and tails, and on the flanks.

The insect is something after the style of the common House Fly, only about one-third the size, and black, with wings of a longer proportion, and a tougher body, which will stand a good, hard blow with a bush brush or the hand without causing death. From throwing the head round continually in the attempt to lick them off, from the horns sticking the body, most of the cattle get ulcers on both sides, and the poor beasts are unable to feed comfortably or be at ease day or night.

I have not been able to succeed in any remedy as yet; Jeyes,' Kreso, or any other wash has not the slightest effect.

The flies seem to prefer black or any dark-coloured cattle.

During the very high winds prevailing lately they seem to have been blown away to more sheltered places, but the plague seems to be increasing and extending in all directions. Any wash disagreeable to them, seems only to cause them to pass to other cattle, but to return again as bad as ever, therefore I see it is necessary to get something that will *kill*. I have been making enquiries from other penkeepers and small settlers, and the complaint is universal. The animals are simply tormented, in some cases death is reported as a consequent result of their attacks.

Strange enough too, they seem more fond of black or any dark-coloured cattle; they being of the same hue may account for their selections.

I should be glad to have the experiences of others on the subject if you get any information.

We recommended the pen-keeper to use an insect deterrent, but to make it in a sticky form, so that it would hold on to the hairs and last. The best of all insect deterrents is undoubtedly kerosene oil, and the ordinary kerosene emulsion would be as good as anything. Some form of petroleum made with an emulsion would come cheaper, and have the same effect.

The United States Entomological Department have the following to say about plagues of flies :—

Almost any greasy substance will keep the flies away for several days. A number of experiments were tried in the field, with the result that train-oil alone and train-oil with a little sulphur or carbolic acid added, will keep the flies away for from five to six days, while with a small proportion of carbolic acid, it will have a healing effect upon sores which may have formed. Common axle-grease will answer nearly as well, and this substance has been successfully and extensively used. Tallow has also been used to good advantage. The practice of smearing the horns with pine or coal-tar simply repels them from these parts. Train-oil or fish-oil seems to be more lasting in its effects than any other of the substances used.

A cheap and efficacious remedy which in the long run will be found to be the best, is the kerosene emulsion. The emulsion consists simply of a

mixture of soap suds with twice the quantity of ordinary coal oil, made as follows :

Kerosene (coal oil), 2 quarts ; rain water, 1 quart ; soap, 2 ounces.

Boil the soap in the water till all is dissolved ; then while boiling hot, turn it into the kerosene, and churn it constantly and forcibly with a syringe or force pump for five minutes, when it will be of a smooth, creamy nature. As it cools it thickens into a jelly-like mass. This gives the stock emulsion which must be diluted before using with nine times its measure, that is 27 quarts of water. It will be found to mix more easily if done at once, before it cools. This makes 30 quarts of the mixture ready for use. This may be applied to the animals by means of a sponge, or, what is certainly more convenient, a force pump and spray nozzle. One application often lasts two or three days. Where a small number of cattle only are kept, the hand sprayers answer well enough.

We are, however, having various patent preparations made for the special purpose of keeping flies off cattle tested, and if any are found more effective, or cheaper than the above, we shall try to get it stocked by merchants.

SEASONABLE HINTS.

VEGETABLES.—November is the best month of the year for planting vegetables, speaking generally, and it is practically the only time that such vegetables as cabbage, beet, turnips, and carrots, can be planted to grow to perfection in the lowlands ; in the hills another planting can be made in March and April, as we have often mentioned. In growing a vegetable garden where the soil is stiff, the land should be roughly turned up as early as July, then in August planted out in kidney beans ; these are picked in October and the land being well weathered, is then easily made ready for planting immediately after the October rains. It is risky planting before the rains are over, as if we get very heavy seasons these may result in washing out the seed and young plants. In order, however, to get the vegetables in as early as possible, it is as well to plant some of the seeds that can be transplanted in boxes and place them where they can be put under cover if heavy rains come on ; then these can be planted out when the heavy rains are over. It must, however, always be borne in mind that the new seasons seeds do not come in till October. A good many people ask for new seeds as early as July.

Plenty of failure results in planting seeds too deeply and through not firming the soil before planting. It is well to make the soil loose but after that when planting the beds, the soil should be firmed down. A firm soil and a hard soil are two different things. In transplanting young tomato and cabbage plants, a usual mistake on the other hand, is not planting them deep enough. They should be planted up to the first leaves in the soil and have the earth packed around the roots, not only around the stem at the ground level but below ; all the parts of the stem, below the ground will send out many roots.

POTATOES.—The same rules apply to potatoes as to vegetables. The land should be turned over early, and be weathered, and planting should take place in the first or second weeks in November. This is the only season they can be grown in the lowlands with success. In the uplands another planting can be made in January and again in March and April under ordinary circumstances. Those, however, who are belated in their preparations can still plant to the end of November if there are fair seasons in the districts.

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GUINEA CORN.—We hope to have some imported seed this month, and this grain can be planted this month, and can also be planted about January 12th, and in February, when rain falls then, and usually in all districts in March and April. The kind of seed we send out is a marvellous cropper; it shoots a head in six weeks under favourable circumstances; and the first seeds can be reaped in three months. If the first heads are broken off, when fit (not cutting down the plant) two other smaller heads will appear at the sides, and in two months more these will come in, while at the same time ratoons are coming up from the root; these will again give a crop in three months. We know a case where a quart of seed was got from one plant. Our red guinea corn is a fine crop to grow in dry districts. Ground doves and ants,—and, we are told ground lizards, although we have had no experience with these—eat out the seeds. To prevent this, and this also applies to vegetable seeds and potatoes, make a paste of wood ash and kerosine, that is, take enough wood ash, damp it with kerosine, then rub the seeds through gently. The cut sides of the potatoes should also be rubbed in this.

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BANANAS.—We see very plainly that it is not yet realised by small settlers how necessary it is to time their bananas; they are always complaining of the small price their fruit brings at this time of the year, as most of their fruit comes in in August and December. They have no notion of how to time the plants, and it is usually a surprise to them to know that the older the ratoons are and the thicker they are grown, the longer the suckers take to grow. A plant banana takes 12 to 15 months, a ratoon sucker takes 18 to 20 months, and under most conditions in the Island (except in the irrigated plains) the suckers for 1910 should have been selected and left to grow in July and August. They should at this time (November) be 5 ft. high. We advise small settlers now where there are many young suckers growing in the ratoons, to prune out big ones that are hopelessly late for next season (for 1909 they should all be full grown now), select good, stout, strong suckers from 4 ft. to 5 ft. high to fruit early in 1910; the more light and air they have the quicker the suckers grow, the thicker they are, the longer they will take to fruit.

This is the slack season of the year and is a good time to begin to collect mulch to spread on the fields in January. Land for planting bananas should be prepared now, it should be turned over and left

in the rough. Where the bananas take long to grow, as in the hills, planting can take place now, and this will also save time in the spring months when small settlers are busy with their provision crops.

* *

FRUIT TREES.—This is a good time to plant out trees of all kinds, coffee, cocoa, cocoanuts, orange trees, etc., but the holes should have been prepared in September and left open. Care should be taken not to plant the trees deep; the holes dug should be filled up and left raised like a potato hill or a yam hill; in planting, these should be opened up and the roots put down just so far as to leave the collar of the tree well above the level of the surrounding ground; it will sink a little in the soft ground. Immediately a tree is planted it should get a dressing of wood ash spread around it and be mulched. Where fruit trees are only planted about the house and fowls and pigs may dig them up, flat stones can be placed on the top of the roots to protect them, and in this case the flat stones act also as a mulch.

* *

PEAS AND BEANS.—This is a good time to plant all kinds of peas and beans, especially in the lowlands. Whenever bananas are planted cow peas should be planted through them, and with all other crops planted, wherever there is a vacant space that will not be crowded for the next two months, red beans can be planted. This is a matter of economy, as they do not do much good to the soil, because, invariably, in gathering the crop the whole vine is pulled out and taken away, instead of the pods being picked off the vines and these left lying on the ground to rot.

* *

ORANGE TREES.—Those who work their orange trees for early oranges should see that all the fruit is off the trees now, and this is the time to do any washing or spraying necessary. We are firm believers in a good scrubbing with an old brush, and the lime and sulphur wash is the best all round mixture that we have used, because it is a fungicide as well as an insecticide, kills all scale, moss, lichens, and parasites, animal or vegetable. Unless where white scale is very virulent, proportions of four of lime to one of sulphur, placed in a wooden tub (not metal), all lumps broken up and sufficient boiling water poured upon the mixture, will make a wash of such texture or strength as can be easily scrubbed on to the trees. For dealing with white scale refer to special article in last JOURNAL.

It must always be remembered that the fruit in healthy orange trees and where they are not grown thick, take seven months from the time they blossom till they are fit for picking; with trees that are thick together or trees that are covered with parasites, oranges take eight months, and in thick shade nine months from blossom to fitness.

* *

TOBACCO.—Planted out in nurseries in August and September, should be planted out in the fields now.

WEATHER AND CROPS.

WE have had nothing that can be characterised as October seasons, but all over the Island we have good rains, and if these continue on through this month and December, we will be better off than if we had real October seasons, which might have done damage to roads and cultivations. What we have had are good steady showers, heavy in the east and west ends of the Island, but only moderate in the other parts. If the rain stops now as it did two years ago, we have not had enough, and there will be drought in the spring, but we hope the showers will continue through December.

Our crops in spite of the long dry weather that we had, are looking almost as good as they were exactly two years ago when the drought commenced. On the north side, the crops of sugar cane in Trelawny and St. James are splendid, and some planters are looking forward to the best returns in 10 years. In the sugar districts of Hanover and Westmoreland the same good results will accrue. In Vere the result of the good rains that have fallen have been immediate and almost magical, and there may be fair crops there after all. In St. Catherine, St. Thomas, St. Mary and Portland, the bananas look exceedingly well and promising; the estates that have been carefully tended have both plants and ratoons full of promise of a fine spring crop, and our exports between March and June inclusive, should be very large. Up to the end of October we were exactly one million bunches behind the preceding year, but with good weather we will almost make this up by the end of March.

In spite of the good prospects, however, we shall not be able to make up lee-way in our exports of sugar as compared to last year. We are exactly 6,000 tons behind, but we should make up some of this. We are 163,000 gallons behind last year's exports of rum, and we should be able to make up a good deal of this before the end of the financial year.

We are hopelessly behind in coconuts, and even with the best weather we cannot make up the four millions that we have exported less than last year up to date, but coconuts are slow of growth and slow to respond to changes of the weather; they were slow to be affected by the drought, and the first year of it did them little harm, but they are still feeling the effects of this year's drought, and it will be June next before they entirely recover even with the best of seasons.

With coffee we have exported 6,000 cwt. more than last year, and there are very good crops in sight in the Blue Mountains and Port Royal Mountains, very fair crops in the central districts, surprisingly good crops in St. Elizabeth down as far as Malvern, very little in South Manchester. We have exported a large quantity of oranges less than the preceding year, and the prices have been much about the same. This is the effect of the continued drought; indeed it is a marvel where so many exportable oranges have come

from, as not only have the trees borne less, but the fruit has been very small. We do not think we have ever seen more rejected oranges at the buying depots than this year; people *will* bring in oranges they are almost certain will be rejected, and so the fruit is flung away.

In ginger we sent away 10,000 cwt. more than the corresponding period of 1907; we think less has been planted this year, and it was badly touched with the drought of June and July; at present, however, the crop looks in fine condition, but much wet weather will rot the roots; dry weather will suit the crop.

In pimento we are away ahead of last year as far as quantity goes, but the proceeds will not quite correspond; still if a large crop does not pay the owner so well as a medium crop, seeing he has a great deal more trouble and worry to secure the same net results, yet the larger the crop the better for the labour, for no matter what the penkeeper receives, the prices for breaking and picking the same; thus, a large crop means a large amount of money circulated amongst women and boys, as has been the case this year.

We are also behind in cocoa by 1,000 cwt., but we are confident that this will be made up before the end of March, and although the fall crop is light, there will be an early spring crop. To sum up, with the very favourable seasons we are having now, prospects look very favourable, but the *results depend entirely upon the weather*. If we continue to have good rains till Christmas, we could stand the usual spring drought without hurt.

POULTRY NOTES.

THIS is a critical time of the year for poultry. After or during prolonged wet weather when, too, last year's birds are moulting, fowls mope a great deal and sit in shelter so that they are not able to find much of their own food. Their feeding should be more generous than usual, yet, because in the moulting season they stop laying, people who incline to work on the something-for-nothing plan, stop off their food; then they complain they cannot get their hens to lay till about March or April, just when eggs are the cheapest. It pays to be generous just now. The hens that are moulting will get through the moult quicker, and begin to lay earlier; fowls that are not moulting like the early hatched pullets will be pushed on to lay, and the good feeding will also tone up their constitutions and prevent attacks of roup. The two periods of the year when roup is most common is at the change of the seasons. In the middle of October when the rains come on, there is a distinct change in the weather, the days are still hot, the nights become cooler and even cold. When roup is allowed to get hold of the fowls, it is a very nasty thing to cure. If people keep an ordinary watch over their fowls when they are feeding them, and notice any running of the nostrils, or a bird scraping at its beak and eyes with its claws, and making a noise as if sneezing, the fowl

should be caught up, tucked under the arm, and a pan of water, with a pinch of permanganate put in it, placed before the operator; then either with the fingers or a piece of old rag dipped in the permanganate and water (which makes Condy's Fluid, and is better than Jeyes as a disinfectant and antiseptic in dealing with sensitive parts of an animal, such as the eyes, which Jeyes would burn),—the nostrils should be cleaned out by squeezing them slightly, then the mouth should also be cleaned out, as when cleaning the nostrils some of the matter goes through into the mouth. Then if there is any watering of the eyes and any yellow matter beginning to collect, they also should be cleaned out; the fowl should then be given a little less than a teaspoonful of castor oil. One dose of the castor oil is plenty for a week, but it will be necessary to attend to the fowl every day with cleaning of the eyes, nostrils and beak, until the symptoms of roup are gone. If the fowl has a rattling in the throat, that is bronchitis, and a little iodine applied with a feather or camel hair brush to the part of the throat between the wattles, will cure it.

We recommended last month that the old fowls not wanted for stock birds should be fattened and eaten or sold before they moulted. A selection of the stock for next year should be made between now and December, and if you are keeping your own pullets, it will be necessary to get another cock to run with them, for fresh blood. The fowls in the Island are on the whole fair, which is something to wonder at, considering the wretched class of roosters usually to be seen. The principal cause of deterioration of male chickens is their being allowed to run with the hens all along. It makes all the difference in the world if young cockerels for stock purposes are separated. They grow larger and broader and have better bone and substance altogether, and much more vigour. We would never buy nor use any rooster that had been raised among hens. For ourselves we keep young roosters separate, and they are as a rule, birds that we are proud of.

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POULTRY MANURE.—Observations and experiments carried out within the last year at the Reading College Poultry Farm, have proved most instructive. Twenty-four ordinary fowls are estimated to produce on ordinary feeding one ton of moist manure a year, and fifty-nine fowls one ton of dry manure. Four tons of fresh manure would accrue from one hundred hens and six cocks in 12 months. The price paid in the poultry fattening districts of England for air-dried manure varies from £2 10s. to £3 per ton. The average manurial value of a fowl is estimated to be 1s. 1d. per annum, in 2½ years the manurial return will be 2s. 4½d.

Almost everybody keeps fowls in Jamaica, at least in the country parts, but it is the rarest thing to see a poultry house where the birds can be sheltered during heavy rains, and the manure can be saved. Such a poultry house here, as we have pointed out, needs to be no elaborate or expensive building. A small shed wattled on three sides is enough. Such a house, the whole cost of which

would be about 10s., would hold twenty fowls and last for many years. The fowl manure alone would be worth 20s. per annum. Earth should be spread below the roots, to catch the droppings, this makes it easy to clean out the manure and keep down smell. The value of poultry droppings mixed with earth can be proved by a simple trial. Take a root of bananas where the bunches produced are small: spread two bushels of poultry manure round the roots. The next bananas produced will probably be straights.

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Eggs.—The eggs that are usually seen in the market are very small, and at this time of the year these little eggs are being sold from 1d. to 1½d. each. Two years ago we even saw imported eggs in shop windows. The best demand of the year is just now until the end of March. The scarcity of eggs is simply because the chickens are not timed to begin laying about October, and the old hens and chickens too are not generously fed to push them on through the most trying time of the year. In the country parts the weather is wet and bleak, hens are moulting, young pullets are growing, they have to sleep in trees, and however passable this is in nice dry weather, the branches are now clammy and wet and slippery. Fog comes down at night in many districts, and so it takes all the food a fowl gets to keep up the animal heat. Housing fowls and feeding them generously at this time of the year pays in eggs. Being kept comfortable at night allows of the food going to keep the pullets growing, and the hens making their new feathers quickly, and so coming on to lay quickly.

COMMENTS.

VANILLA.—Any one wishing Vanilla cuttings for planting can have the opportunity from December, as there will be a considerable quantity for disposal at Hope Gardens at 2d. per cutting. Address the Director of Agriculture.

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SEEDLING CANE TOPS.—All inquiries regarding seedling cane tops should be addressed to the Hon. Director of Agriculture, Hope Gardens, Kingston, not to this office.

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PRIZE HOLDINGS COMPETITION.—The judging for St. Andrew will begin on 30th November, and Mr. Arnett, the Instructor for St. Ann and Trelawny, will be the Judge. We regret that Mr. Briscoe, the Instructor for the Parish, will not be with him to shew him the districts, and introduce him to the Competitors, and help to drive home the lessons imparted while he was working up the Competition.

Mr. Briscoe will be in Portland taking Mr. Cradwick's duties at the time.

LEARNING TROPICAL AGRICULTURE.—There are always inquiries coming to hand from abroad, asking whether young men can be apprenticed or articted to planters here for a time, to learn tropical agriculture, including stock-raising, and the terms. There is a list of planters willing to take young men on certain terms, published in the *Handbook of Jamaica* in 1905, but this needs revision, and we intend to issue a new list with full particulars. We shall be glad to hear from any planters in the country who are open to take young men, and they might give us the fullest particulars possible. We think it would serve the purpose better if certain particulars were given for publication, and fuller particulars, if thought necessary, supplied for private reference.

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SEED POTATOES.—We asked for orders for seed potatoes in the month of August, as we could only get potatoes to order. In spite of this, after the potatoes have come and been sent out, correspondents still write, asking us to send on barrels of seed potatoes. It would not be possible for us to keep seed potatoes in stock as they do not keep long. We shall, however, be ready to import for the spring months if there are orders enough. We are sorry to say, that although each barrel was marked "Selected Seed," and ordered from responsible people, the potatoes received are far from what we could call good seed potatoes, and we are sending a sample to the Department of Agriculture in Canada, calling attention to the kind of potato supplied as "Selected Seed." If the farmers in Canada plant such seed potatoes, they have a lot to learn—but we can hardly believe that they would. The potatoes sent would not be even good potatoes for table purposes. They are large, misshapen and scabby, and involved a lot of waste in re-sorting.

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RAT TRAPS.—The surest and most deadly trap for rats and mice is what is called the 'Out-of-Sight.' It never fails, but the great objection to it, was the danger to our fingers in setting the strong spring, which if it flew back before the catch was properly on, might break one's digits; and then the catch very soon got worn, and so these traps did not last long. We have on hand a strong zinc trap of the same device, but which is set safely, by pressing the lever with the foot, when a hook connected with the bait hook springs up and catches the lever. As soon as the bait hook is touched the catch is set free, and the spring rebounds with great force. There is not the slightest danger to foot or finger in setting this trap. We are introducing this to the trade.

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GUINEA CORN.—Only one seed of the small packet of guinea corn you sent me escaped the ants, but it has given me three navy cut tins of grain. I planted them in March and have reaped four crops to the present from the one seed. I find the best way is to sow in boxes suspended by a wire, and transplant when a couple inches high.—A. L. N., Vere.

[This method is only suitable for small quantities, but guinea

corn stands transplanting well, and seems even to benefit by it so can be planted first in beds. The plants can be safely transplanted up to the thickness of a pen holder, we have tried them even up to a later age, and if they are dipped in a paste of earth and water—"puddled" is the expression to use—as they are being planted, they will get on even without immediate rain. Ants and ground doves are the great enemies of guinea corn when planted, and the seeds should always be passed through kerosine before planting.]—Ed.

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RUBBER—The question of whether small settlers should plant rubber trees has been brought before us in correspondence, and at meetings of Branch Societies. At Smithville in Clarendon, which we visited lately, it was one of the questions discussed. In the Branch Report from Glengoffe we note that it was a question asked of the Instructor whether members should plant rubber trees, as they had been previously advised to do so by another Instructor, but felt doubtful about it. We have already referred to this in the JOURNAL. We have said that rubber was distinctly a product for large planters, not for small settlers here. There would be no use of growing a few trees commercially—there must be a good acreage to make it worth while. And too, the preparation of rubber for market is likely to be rather an elaborate matter in the future, necessitating special implements and machinery.

Rubber is being planted as a rule through bananas and cocoa in big plantations in the hope that it will form a good permanent shade tree for cocoa, but small settlers do not require this; it is all the other way with them; they have their cocoa and coffee under too much shade—too many different kinds of trees mostly food-producers of one kind or another shading their coffee and cocoa.

But does not this question arising among small settlers confirm what we have often held—the necessity of an Instructor remaining in one district to be responsible for his policy.

On page 223 JOURNAL for 1907 we wrote: It was a wise step to make fixed districts and appoint Instructors for these for a term of years, at least. It would now be the greatest mistake to shift the Instructors to different districts. They follow out a certain line of work of their own, and they ought to take the responsibility of all this.

BRANCH NOTES.

St. Thomas in the Vale.—A Special General Meeting of this Branch was held at the schoolroom, Bog Walk, on Wednesday, 30th ult. There had been much rain all day, which prevented very many members and friends from turning out. Of those present were: J. H. McPhail, Esq., in the chair, Rev. J. W. Graham, Messrs. Jno. Barclay, General Secretary, J. Hirst, Instructor, M. Coombs, J. Fearon, T. Hare, E. A. McNeil, E. L. Stanigar, G. S. Bennett, Jno. Fraser, F. Foster, G. R. Palmer Secretary, and four school children. The object of this meeting, as noted in a previous report, was to discuss the probability of holding a show early next year, and so after a few preliminaries were gone through, Mr. Barclay was asked to deal with the matter of guidance into the way of

holding a show. There is no one here, we believe, that has better knowledge and wider experience of show work than the Secretary, and so we feel that we are on good lines in obtaining his help at the start. He began by explaining the usefulness of shows from more than one point of view. First, the social side of a show. A show was a large picnic where we met our friends and old acquaintances, many of whom we would not otherwise have met or under such pleasant conditions. Second, the educative side of a show. A show brought out the worth and capabilities not only of the stock that were to be exhibited, but also of the boys who did the tending and caring of these stock. They vied with each other for a better place. Owners also looked more narrowly and carefully into the points of their stock. Third, the trade side of a show. Business was improved in the vicinity whenever there was to be a show. People purchased a good many things that they would not otherwise have purchased. (Messrs. Dillon and Gauntlett here entered) Referring to the work in getting up a show, Mr. Barclay said that the first thing to be considered was suitable grounds. We needed to have grounds easy to get at but not easy to get into except by the gate; where stock and produce brought as exhibits, would be safe and protected. As is the case in a few places, there should be representatives for each different district. (S. Martin, A. Grant, Rev. Bennett, N. Brown, Edward Brown and J. Brairy took their seats). The speaker went on to emphasize the importance of having paid clerks, who would be by duty bound to attend to their work. The placing of the name of the prize winner on the ticket, along with the number was very necessary, as without it, visitors and exhibitors were not so much interested. This was to be done by the clerks after the judges had passed by. It was very important to secure the services of experienced men as judges; as that tended to save a good deal of the dissatisfaction so common with exhibitors. Mr. Barclay went on for some time, minutely dealing with every department of the show. It was decided to hold a show next year, and the date was fixed for April 15, Thursday in Easter week. A Show Committee has been formed which is very representative. It was agreed upon and the Secretary was instructed to communicate with the President and Secretary of all the neighbouring Societies, as well as with all the influential gentlemen in the surroundings, informing them of the arrangements and inviting their co-operation. The following are the Societies to be communicated with:—Spanish Town, Above Rocks, Glengoffe, Guy's Hill, Cedar Valley, Lucky Hill, Hampshire, Upper St. John, and St. John. We are looking forward to a good show, especially as we can boast of the assistance of such persons as the General Secretary and the Instructor. Rainfall for week ending 4th October 1.53 inches; on the 5th 2.50 fell. Bananas shipped for last month 2,500 stems; oranges 880 boxes.—G. R. PALMER, Secretary.

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Glengoffe.—The monthly meeting of this Branch came off in the Grateful Hill schoolroom on the 8th ult. The attendance was good, and a profitable time was spent. Mr. Briscoe, Travelling Instructor, was in attendance. Coming early in the afternoon, he found the boys about to go into the school garden. He grasped his opportunity, lectured, pruned cocoa, and suggested narrower walks between vegetable beds, he himself laying out one as an example. The meeting called to order, the Secretary read items of correspondence from Mr. Barclay *re* judging for the Prize Holdings Competition, *re* resolution on side drains, *re* the strict enforcement of subscription rule and the commencement of the Branch's year. The Secretary informed the meeting that the Managing Committee had recommended the retention of Mr. Cradwick's services in the judging of the Prize Holdings. Among the members, there was a oneness of feeling that there should be under any circumstance, a uniform system of awarding points. There was general satisfaction with regard to the manner in which Mr. Barclay moved in the matter of damages done by side drains.

on the main and parochial roads. The losers were satisfied with the assurance that great care will be exercised in the future to prevent the destruction of their valuable plants, but one loss on the main road was of such a magnitude as to necessitate the member seeking compensation through the Secretary. The question of a bridge over the local river, a tributary of the Rio Pedro, was earnestly discussed. It was decided that the Government be at once approached and that the President and the Secretary prepare a petition. At this point, Mr. Briscoe was introduced to the members, and a lively lecture followed. Asked to deal with the different varieties of cocoa, the lecturer mentioned and described three varieties, advocating the cultivation of the Forastero for their district. In any case he advised the cultivation of only one variety, as disregard for this method will result in a mixture for which the price of the inferior beans will rule. Other matters touched upon by the lecturer were the value of co-operation, the objects of the Prize Holdings scheme and the cultivation of sugar-cane. He did not advocate the planting of rubber by small planters. This created a stir as Mr. Cradwick was a zealous advocate of planting rubber. The lecturer concluded with a wish for the future progress of the Branch, and for a successful show.—A. P. HARRISON, Secretary.

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Gibraltar.—On Saturday, the 24th ult., a meeting of this Branch was held. Mr. Arnett presided. The following members were present: Messrs. J. R. Codner, George Allen, W. McFarlane, Joseph McNeish, Joshua Campbell, Nicholas Watson, Henry Gaynor, Thos. Todd, Joseph Barnett, Sam Samuels, Levi Lawrence, Percy Gager, and the Secretary. A digest of the last meeting was given by the Secretary. For the benefit of the new members, Mr. Arnett gave a thorough explanation on the use of the money collected by the Branch. He further stated the power the Branch can share in the new Prædial Larceny Bill when it is enforced. To give an impetus to the members for the upkeeping of the Society, he made reference of the effective work that other Branches throughout the Island is accomplishing. After some discussion, it was unanimously decided that the general meetings should be held quarterly and meetings of the working committee be held monthly. Mr. Arnett's primary reason for convening a meeting was to make arrangements for the holding of a show in connection with this Branch. The entire meeting was in sympathy with this idea, and pledged to make it a success. After a lengthy discussion, it was decided to have it on or about the first week in February 1909. A Show Committee was formed, comprising the following: Messrs. J. A. Codner, Geo. Allen, W. McFarlane, A. S. Barnett, Joseph Barnett, Percy Gager, Joshua Campbell, Henry Wiggan, E. B. Mills, Jas. and Joseph McNeish, Sam Samuels, Nicholas Watson and Thos. Todd. The following are the officers elected: Messrs. Arnett, (President), Codner, (Treasurer), I. H. Edwards, (Secretary).

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Springfield.—The regular quarterly meeting of this Branch was held at Kensington on the 25th September. Present: Rev. J. A. Jones in the chair, J. Jacob Irving, Treasurer, Mr. D. Adolphus Smart, Secretary, and Messrs. A. G. McLaughlan, D. E. Drummond, W. T. Reid, W. Leech, J. Chisholm, and Alexander Stephens. Minutes of last meeting were read and confirmed. The jippi-jappa hat industry was discussed at length. Though many difficulties prevent the Society making a start, yet it is pleasing that private instructions are being given by two young ladies of the neighbourhood. Agreed that the Society lay off the matter for future consideration. Letters from the Secretary of the parent Society were then dealt with. The owl is not regarded in this locality as a nuisance agriculturally. The chicken hawk is a great pest to poultry, goldfinch to growing yams, jacksparrow to yam-heads, corn, tobacco

seeds, etc., and the pitchary to bees. Bird-life is without doubt, on a great decrease for at least a few years since. The mongoose has almost exterminated the ground-birds. It has been noticed that even the migratory birds are becoming very scarce. Copy of Rules from the parent Society was received with thanks. Moved by Rev. Jones and seconded by Mr. J. Jacob Irving, that Mr. D. Adolphus Smart make a digest of them and present same at the next meeting of the Society, which is to be in December. Letter referring to the appointment of a local gentleman to assist as judge in the Prize Holdings Competition was next considered. This Society is positively opposed to this measure. Its general opinion is that it will be a source of trouble in more ways than one, and moreso to the local men. With a well informed instructor appointed as judge, to accompany the one for the district, more instruction will be available to the people, while the judging will be more uniform. It was proposed, seconded and agreed unanimously, that G. H. Leader, Esq., Montego Bay P.O., be a member of this Society. There were profitable talks on various matters—such as doing our best to assist the Government in the destruction of rats, the rearing of domestic animals, the study of nature, etc. All felt happy in the hands of the Chairman. The meeting adjourned with a feeling that a profitable time was spent.—D. ADOLPHUS SMART, Secretary.

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Springfield.—Mr. H. D. Mennell, Travelling Instructor, called for a special meeting of this Branch, which came off on the 16th ult., to discuss matters connected with the forthcoming Prize Holdings Competitions. Present :—Messrs. J. Jacob Irving, D. Adolphus Smart, H. D. Mennell, Instructor, W. T. Reid, J. Shaw, D. E. Drummond, and B. B. Morris. After a few suitable remarks of welcome from J. Jacob Irving, Esq., J.P., the Instructor was called to the chair. Minutes of last meeting were read and confirmed. It was much to be regretted that many interesting parties did not put in their presence, owing to the severity of the weather. Mr. Mennell, in an interesting address, explained the object of the meeting, and said, he was glad he found that certain foolish notions *re* taxation, etc., were not prevalent among the St. James' people, while the truth on the contrary is understood, that unimproved lands are not exempted from taxation. The competition is one of the best things of the Society, for it helps onward the improvements of the home in many ways, and lessens the tendency to concentrate most labour on rented lands. *Re* jippi-jappa.—It was very gratifying to learn from a member in the meeting that the straw is found growing on the land of more than one individual in the Tangle River District. Mr. Mennell, with much emphasis, encouraged its cultivation. Mr. Irving gave a lengthy, though very interesting address on the subject, showing among many points that good things take long to flourish, but he felt Jamaica is now in the way to make a name in hat-making; and he would be very glad if the Government could see its way to help the march onward so that there could be a possibility to foster the art of hat-making at schools, in somewhat a similar way to how sewing is being taught. It was considered to be of great educational importance if it could be arranged for one of our local gentlemen, viz., Mr. Leader or Mr. Murray, to act with the local Instructor as judge for the "Small Holdings." Mr. Mennell was asked to let us know what would be the regular time fixed on his itinerary for our visit. With this, the meeting adjourned after a vote of thanks to the Instructor.—D. ADOLPHUS SMART, Secretary.

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Cambridge.—At a meeting of this Branch held on the 29th October, the following members were present: Rev. P. T. A. Jones, President, Mr. R. Nelson, Vice-president, Mrs. F. Child, Miss Dickens, Messrs. E.E. Dickens, A. Linton, R. Jackson, J. J. Reid and the Secretary. Mrs. Jones and

Mr. N. Robinson were among the visitors. After the reading and confirmation of the minutes of last meeting a discussion, led by the President, began on the manner the Committee appointed by the St. Andrew Parochial Board, to visit and report on the road asked to be converted into a cart road, treated their obligation to the Board and the people. Through Mr. Johnson, a member of the Parochial Board, we were informed that the Board had appointed a committee to visit the road on the 13th, the men of the several districts turned out in large numbers at different points to meet the Committee, but only to be disappointed as none of the Parochial Fathers, save our local member, put in an appearance. Mr. Johnson reported this non-attendance to the Board, whereupon, Wednesday the 28th was again named, and again we had a repetition of the 13th, for except two employees of the Board we saw no one. The President thought that steps should be taken to inform the Board that we feel that:—1st. Our local member of the Parochial Board has been slighted. 2nd. The inhabitants have been slighted. 3rd. The road is required, and the people have asked repeatedly for it. During the time that the President had been speaking, Messrs. Sinclair Johnson, Pascoe, Anderson, Gordon and others took their seats. Mr. Johnson said that, as a member of the Board, he will persist in his endeavours to get the road. Mr. Anderson was of opinion that bad roads impede progress in all undertakings, and that a cart road was bound to be an impetus to agriculture on these hills. Messrs. Sinclair, Jackson and the Secretary spoke, all showing the necessity for the road and expressing indignation at the action of the Committee. The President then proposed that "a letter from this Branch be sent to the Chairman of the St. Andrew Parochial Board, calling his attention to this oversight, in which such oversight should be denounced, and asking him to take such steps as will be conducive to the granting of our request—the road." The Secretary seconded and it was unanimously agreed to. The President was asked to prepare and forward the letter. The remainder of the evening was occupied in discussing plans for a local show to held during the latter part of next April. Peter's Rock was considered the most suitable place in the district, and the owner being present, the spot was applied for and was readily granted. A Show Committee consisting of the President, Messrs. Anderson, Johnson, Linton and the Secretary, was appointed. As it was now about ten o'clock other matters in connection with the show were postponed for next meeting. — R. A. CARR, Secretary.

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Christiana.—The quarterly meeting of this Branch was held in the Court house here to-day. The President occupied the chair, and opened the meeting in the usual way. He expressed regret that owing to illness, Dr. Turner, the Secretary, was absent. The minutes of the previous meeting were read by Mr. W. C. Leslie, the Assistant Secretary, and confirmed. Mr. L. T. W. Virtue was requested to record the proceedings of this day's meeting as Acting Secretary. Communications were read from the following:—Rev. Dr. Turner; John Barclay, Esq.; John Stewart, Esq., Editor of the *Jamaica Daily Telegraph*; and from the *Jamaica Times*. Dr. Turner wrote on the subject of his inability to continue in his present capacity, owing to press of work. This received much attention. He also sent a resolution *re* Taxation, which was thought wise to lay over for the January meeting, when a larger attendance would most probably be present for its due consideration. Mr. John Barclay sent a letter on "Birds," and requested the Society to express their opinion as to whether or not bird-life was increasing or decreasing in their locality. He also wrote expressing surprise that ignorant folks destroy owls by shooting them, excusing themselves by saying that they are antagonistic to agriculture. Mr. Barclay further wrote:—"Owls fly only at night, and if they do take other food, there is no question that their chief food is rats, and rats are our worst enemies agriculturally." Mr. Barclay rightly

thinks that owls are useful agriculturally, and should receive our protection. The meeting was not of opinion that owls are generally shot, but each member promised to endeavour to influence one and all for a better protection of the owl than apparently existed heretofore. Mr. John Stewart's letter *re* the "Baker Memorial Fund," received due consideration and attention. The President, A. Walder, Esq., J. P. Palache, Esq., J. J. Wright, Esq., E. A. Bailey, Esq., all spoke in praise of the late Captain Baker, but nothing definite was arrived at, very likely because of the comparatively small attendance to-day. The letter *re* Mr. Holland's competition was read and carefully considered. The meeting was unanimous on the point, that the scheme was undoubtedly a very excellent one, but it was also conscious of the fact, that at present nothing authentic could be arrived at, and it would be rather difficult to get a perfectly true and in every way reliable account. The President remarked among other things: "We are not *ripe* enough for such a desirable scheme to be brought into working operation." The boar belonging to the Society was next spoken about. Certain figures were presented showing that this boar was not paying his way. After a good deal of discussion, it was moved by Mr. A. Walder and unanimously agreed upon, that as this boar was not paying to the Society, it should be sold at public auction, or disposed of in some other way as the management of it was getting rather unsatisfactory. Mr. Palache next spoke very zealously on the necessity that there is for more healthy co-operation of the Branch Societies in endeavouring to facilitate, and to make more potent the usefulness of the annual shows held at Kendal. He endeavoured to point out that Christiana Branch should strive to compete with the other Branch Societies in getting a good selection of exhibits, not less than twenty specimens, to be exhibited on the 26th prox., for the prize of £3 at Kendal Show. A Committee was elected for the due consideration of this very important matter, seven, with three to form a quorum. The Committee appointed, consisted of the following seven gentlemen:--Messrs. E. A. Bayley, A. Walder, R. Shaw, H. T. Cambridge, J. J. Wright, W. F. Bailey, and L. T. W. Virtue. This Committee has been appointed to facilitate the working of this Branch Society in carrying out this scheme, and to interest itself in every way so as to have all the business connected therewith effectually carried through to the satisfaction of the Society, and for the benefit of the parish of Manchester in particular as well as for the benefit of the whole Island. Mr. J. T. Palache gave a very interesting lecture on "Birds." He tried to impress the meeting that the owl, the swallows, the Mocking-bird, the September and the Tinkling deserve our protection, as they prove of great service to us agriculturally. Certain destructive worms, insects and other creatures are destroyed by them as their food. The owl destroys mice and rats and should not be shot or destroyed in any way. The goldfinch, the sparrow, the hawk, are destructive birds and have nothing much to be said in their favour. Many birds are beautiful and very harmless, and there is nothing against them. For this very instructive and interesting lecture, Mr. H. T. Cambridge moved a vote of thanks to Mr. Palache. This was seconded by the President and unanimously accorded. Mr. Palache replied, expressing much pleasure that his efforts to make the meeting profitable were so highly appreciated. The next meeting was fixed for the second Friday in January, 1909, at 1 p.m. Rev. F. Weiss and Mr. W. F. Bailey became members to-day. The meeting then adjourned.—L. T. W. VIRTUE, Acting Secretary.

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Red Hills.—Our Branch Society here is not altogether dead. We have not had a meeting for a long time, but there are few of our members who having derived benefits from the Society, have pledged themselves to start it again. One of these said he has some cocoa trees which were giving him next to nothing, but Mr. Briscoe attended to them, and to his

great surprise he got a crop which gave him the handsome sum of 7s. 6d. Mr. Briscoe visited us a week ago in connection with the Prize Holdings Competition. He was well received. He will be spending a few days at the beginning of the coming month for the purpose of visiting the district through, and starting the Society again.—J. M. WALLER, Secretary.

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Trinityville.—The usual monthly meeting of this Branch was held on the 23rd October. There were present: Messrs. W. A. R. Carr, President, A. Hearne, J. Briscoe, Travelling Instructor, W. P. Hall, H. E. Wisdom, J. A. A. Ross, E. S. Edwards, James Spleen, David Bugon, Edward Grant, and J. T. Edman, Secretary; Messrs. E. A. Blake and Robert Edman were also present as visitors. The minutes of last meeting were read and confirmed. Arising out of minutes—Mr. Hearne said that the No. 10 Bridle Road is at present accessible. Reported that bill for printing, etc. paid. Subscriptions received from seven members. Mr. Barclay's letters were read and discussed, (a) *re* centenarians, none in this district, (b) white scale on orange trees. Observation did not show that it existed on trees around. After a discussion on the orange industry had taken place, the following resolution was carried on motion of Messrs. Edwards and Ross: "That in view of the importance of the orange industry of the Island, and of the danger of the trade being completely ruined by the shipment of immatured and carelessly handled fruit, this Society begs to urge on the Government the necessity of appointing inspectors at the various shipping ports." The following amendments to the rules of the Society were adopted: "Five members to form a quorum at monthly meeting, and the Managing Committee three." Some discussion followed about the appointment of a local Instructor and the following resolution was passed on motion of Messrs. Edwards and Carr:—"That the Parish being purely an agricultural one, and having been sadly neglected in the past, this Society thinks the time has come when it should have its own Instructor, and we respectfully beg that J. Briscoe, Esq., the present Travelling Instructor for St. Andrew and St. Thomas, be permanently appointed for this parish only. New lands are being taken up by the people, and they require the immediate guidance of an Instructor." The Governor wrote that he did not consider it either necessary or advisable to open relief work in the district. On the matter of roads, Mr. Carr moved, seconded by Mr. Ross—"That the Parochial Board be written to, and asked to improve the No. 85 Bridle Road by deviation—a part of the said road being purely river course, and in a very dangerous condition."—This was carried. Other minor matters were dealt with, and the meeting adjourned.—J. T. EDMAN, Secretary.

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Stewart Town.—The regular monthly meeting of this Branch was held on Thursday evening, October 29. In the unavoidable absence of the President, the Hon. and Rev. W. M. Webb, Mr. John Stockhausen presided. The following members were present:—Messrs. Charles McFarlane, Joseph Hall, W. N. Dougal, R. H. Brissett, Charles Bailey, Samuel Barnett, James Campbell, William Gallimore, John Ricketts, Uriah Roper, David Williams, Richard Hall, Thomas Wilkin, William Cunningham, George Hall, and the Secretary. The Chairman remarked that there were no additions to our membership, and advised each member to use his influence in getting others to join. The minutes of the meeting of August 27, and the special meeting from September 11, were read and confirmed. The members were again reminded of the agricultural show to be held at Gibraltar about February 1909. Mr. Stockhausen urged the members of this Branch to take an interest in it; and he was quite sure when the time came round for our show, the Gibraltar Branch would co-operate. He also urged us to begin making preparations for our show. Mr. Barclay's letter *re* the Prize Holdings Scheme, dated September 11,

was read. There was no discussion on the subject, the Chairman having stated that the matter, as he understood, had been already settled, and he thought it was pretty well on the same lines suggested by our President at the special meeting of September 11. A letter from the Superintendent of Parochial Roads for Trelawny, stating that the Stewart Town Agricultural Society having petitioned the Parochial Board to take over, and work the road leading to Liberty Hall and Friendship Mountains, he was instructed to visit the road and report on it; that he would be there on Thursday, November 5, and asked the Secretary of the Branch to notify the people interested in the road, so that some of them should meet him, as he does not know anything of the road. The Secretary reminded the meeting that the Branch had completed one year of its existence, and that the subscription of members who joined in October, 1907, is now due for October, '08 to October '09. Some of the members had already paid in. The letter of the Secretary of the parent Society *re* the rule: "No subscription, no JOURNAL," was read at this stage. At the next meeting, November 26, the Treasurer will present the financial statement of the Branch, and the Secretary, the report of the work of the Branch for the year. It was noted that some of the members of the Branch residing in the neighbourhood were very indifferent, as shown in the absence from the meetings for 5, 7, and even 10 months. On the motion of Mr. Charles McFarlane, seconded by Mr. William Gallimore, it was agreed that a Visiting Committee be appointed to ascertain from the indifferent members their reasons for so doing. Mr. Stockhausen moved and Mr. R. H. Brissett seconded, that Messrs. Charles McFarlane and W. N. Dougal be appointed the Visiting Committee, and to report at next meeting. All the members present pledged themselves to keep up the Branch. They were unanimous in stating that much benefit had been derived from the Society, and especially Mr. R. H. Brissett, who spoke on the value of the AGRICULTURAL JOURNAL to him. To increase the scope of usefulness of the Society, he would like to see the Branch make another attempt to grow cotton. Other members similarly expressed themselves, and stated that if it were not possible to reattempt cotton cultivation in the near future, then the Branch could take up some other industry, or get an improved breed of pigs, or undertake something that would, from a financial point of view, bring some benefit to the members as a whole. The matter will be further considered at the next meeting. Another letter from Mr. Barclay, the Secretary of the parent Society, eliciting information as to whether there are any centenarians in this district, was read. Several old people had recently died here who had lived for 100 years and over. There are several old people still alive, but it is not known if any are centenarians. The Secretary will endeavour to get the information asked for, and forward it duly. On the motion of Mr. Samuel Barnett, seconded by Mr. George Hill, a vote of thanks was heartily accorded the Secretary, Mr. Josiah Johnson, for faithful services rendered to the Branch. The Chairman expressed his regret that the President, Hon. and Rev. W. M. Webb, as well as Mr. Arnett, the local Instructor were absent, but he knew if it were possible they would have been present. The best of feelings prevailed throughout the meeting, and all felt that a profitable evening had been spent. The Doxology was sung and the meeting terminated.—JOSIAH JOHNSON, Secretary.

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Metcalfe.—The monthly meeting of this Branch was held at the usual hour on Thursday, October 14. Present:—Ellis Hart, Esq., in the chair, and 25 members according to the register. The minutes of the last meeting were read and confirmed. Resolutions.—The Society returns thanks for the copies of the JOURNAL sent, and feels itself indebted to the Society for the valuable instructions given *re* Pigs, Cane, etc., etc. Our Society wants to know how and where to get the seedling cane tops, and what is the cost. We therefore beg for information. We also wish to

find out where and how to secure some very good breed of pigs and goats. The Society is anxious to start a jippi-jappa hat class in this district. Owing to the bad condition of the roads in rainy seasons, and therefore our great isolation, most people here misinterpret the meaning of the Agricultural Society, as an organization connected with the Government, and brought in for the purpose of taxation, and refuse bluntly to associate with it or to listen to any instruction. Some feel too that for years they have been called upon for tax money, and are given no road by way of which to do marketing, so as to be able to pay attention to their public and domestic duties. This leads to the Society contemplating a petition to the Governor for a road leading from Rock River to Tom's River by way of Job's Hill. It is in my opinion that the efforts put forth to gather the members to form this Society will be rewarded by the addition of other members from time to time.—S. C. SCOTT.

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Smithville.—The regular monthly meeting was held on the 5th October. There were present: Mr. J. Barclay (Secretary of the parent Society), Mr. J. Hirst (Travelling Instructor), Mr. W. S. Reid (Chairman), Rev. R. G. Chambers and Mrs. Chambers, Messrs. F. McLymont, George Young, A. Russell, M. Edwards, E. Palmer, A. Howell, Thomas Davis, T. Clarke, J. Adams, A. McLean, R. J. Reid, S. Thomas, J. Mitchell, A. Card, M. Clarke, D. McKenzie, H. Peck, J. Deacon, and a large number of visitors, in spite of the wet weather. The name of Mr. O. P. Martin was proposed for enrolment as a member. Then followed the reading of a very interesting paper on the "Future of Smithville" by Mr. Amos Russell, after which the President extended a hearty welcome to Messrs. Barclay and Hirst. Mr. Barclay spoke on the value of the Agricultural Society to the Island, and gave a brief account of the Society from its formation, touching upon the good the Society has done in appointing Instructors who are doing very good work throughout the Island, in improving the breeds of animals, in spreading a knowledge of agriculture through the monthly JOURNALS, etc. He next dealt with "Manure," and in course, pointed out, that wood ash though a very valuable manure, is sadly wasted. He touched upon cocoa cultivation, pointing out the effects of bad pruning, and advocated the use of Stockholm tar on all cut surfaces. He pointed out also the necessity of timing the bananas in order to make them come in for market when good prices can be obtained. The Prize Holdings Scheme and its value were dealt with. He spoke on the need of a driving road to the district, and encouraged the Society to take proper steps in the matter. At the close of the address several questions were asked, to which Mr. Barclay gave satisfactory answers. A vote of thanks to Mr. Barclay for his very instructive address was moved by Mr. F. McLymont, seconded by Mr. Marcus Edwards. Mr. Hirst in his address, laid emphasis on some of Mr. Barclay's remarks, and like him, encouraged the Society to take steps in the matter of the driving road. He expressed regret at his not being able to take Mr. Barclay around to visit some of the cultivations as it had been raining all day.—J. A. EDWARDS, Secretary.

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Lamb's River.—The quarterly meeting of this Branch was held in the schoolroom, Mount Hermon, on Friday, 9th October. Members present: Messrs. H. D. D. Mennell (acting President), C. W. Whittingham, J. E. Lawrence, L. A. Whittingham, James Scarlett, James Gallimore, James Reid, George Wright, B. T. Johnson, George Warburton, and U. L. Brown. The minutes of the previous meeting were read and confirmed. In the absence of Mr. Edmund Graham, the acting President reported the death of the Indian game rooster. He had communicated the matter to Mr. Barclay, and his opinion is, that the bird might have received a blow on the leg, and hence the cause of the rising which resulted in its death. It was proposed by Mr. C. W. Whittingham, that as another pure

bred Indian game rooster can be procured easily and cheap, he be bought from the funds of the Society, to fill the place of the other: this was seconded by the acting President, and carried unanimously: Mr. Whittingham reported that the Plymouth Rock hens under his keep and care, are still in good condition, but not laying now. The Treasurer's account to date was presented, and it showed money balance to the credit of the Society to £2 15s. 10d. At the July meeting of the Society, the acting President read a letter from the Secretary of the parent Society making enquiry *re* arrowroot tubers. The matter was again brought up at this meeting, and it was found out that those who cultivate arrowroot, are not willing to dispose of the tubers, but the starch. The Secretary read a letter from the Secretary of the Jamaica Agricultural Society *re* the new arrangements in the Agricultural Department *re* Mr. Cradwick's not being available for judging holdings in this part of the Island for the future. The letter was discussed fully, and it was unanimously agreed that the plan will not be workable. The Secretary read a letter from the Secretary of the Newmarket Branch *re* the show to be held at Payne's Town, on the 9th prox., but owing to the small attendance of members through inclement weather, it was found impracticable to send exhibits through the Society as heretofore. The Secretary read a letter from Mr. G. Percy Fonseca *re* a new Branch Society in formation in Spanish Town. He was asked to send to him a copy of the rules of this Society for guidance. The Secretary proposed, Mr. C. W. Whittingham seconded, Mr. Daniel Moodie, Lamb's River P.O., as a new member of the Society. He was duly elected.—U. L. BROWN, Secretary.

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Cedar Valley.—A meeting of this Branch was held on the 1st of October at 4 p.m. This was a big evening for the members of the Society, as among the many gentlemen present, were Messrs. J. Hirst and John Barclay. The visit of the latter gentleman has been the first since the formation of the Branch. The President, Rev. J. N. D. Gordon, introduced Mr. Barclay to the meeting, and was quite sanguine that they would not be disappointed in what he had to say. Mr. Barclay on rising, thanked the President for his remarks, and began giving a most educative agricultural address. • The lecturer told what the Agricultural Society is, what it has done, and what it is capable of doing. The prosperity of a country, he said, does not depend on the prosperity of a few, but on the general prosperity of all. He touched on the Prize Holdings Competition. By this competition, not only are small settlers stimulated to put their cultivations in better order, but the homes and surroundings generally are helped to improvement. The speaker said he looked forward to a day when only the best produce would be bought, because competition was getting to be so keen, and the production so great, that inferior stuff would practically be left in the cold. What was wanted was not only quantity, but quality. Coffee, oranges and cocoa were also dealt with. Mr. Hirst also spoke on the Prize Holdings Competition, and briefly showed how many homes had been made better through this Competition. The President, Rev. J. N. D. Gordon, on rising to thank Mr. Barclay for his able address said, gentlemen, really for the last hour, we had been in an agricultural school, and he must candidly say that it was the best agricultural lecture he had ever listened to. He hoped that what had been said might be put in practice by the members. Mr. Isaac Rose also spoke, and along with the President, thanked the gentlemen for their visit and instruction. Before the close of the meeting, the President moved, that as owing to the recent hurricane, the people of Turks Island had suffered heavy loss, be it resolved therefore that our sympathy be shown by giving something from our purse. Mr. Barclay seconded the motion. The amount of 10s. 6d. was raised the same evening, and many promises were made. The meeting came to a close at about 7 p.m.

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BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 11 North Parade, Kingston, on Thursday, 19th November, at 11.40 a.m. Present:—His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. H. C. Bourne, L. J. Bertram, H. H. Cousins and Geo. McGrath; Messrs. D. Campbell, Robert Craig, A. W. Douet, A. C. L. Martin, and the Secretary, John Barclay.

Apologies for absence Apologies for absence were submitted from Mr. J. R. Williams, whose duty prevented him from being present, Mr. J. Shore and Mr. E. W. Muirhead. Mr. Muirhead also asked for three months leave of absence, as he would be leaving the Island for a time, which was granted.

Deputy Chairman. Mr. Craig said, in view of the alteration of the rules of the Society at the special general meeting held in September, he would like to know what position Mr. Cousins now occupied in regard to the Deputy Chairmanship of the Society. His own views were that Mr. Cousins was *functus officio*.

The President said this point had been put before him by the Secretary of the Society a little time ago. He should hold—and he had held up to the present, and he saw no reason to alter his view—that so long as no fresh election of officers was held, the officers who were duly nominated or elected at the previous annual meeting, must be held to be eligible to hold office until there was a fresh election. That was his view.

Mr. Craig said he must say that he did not agree with the decision. He considered that as the rules of the Society had been altered, and as Mr. Cousins had not been elected under the new rules, then he was out of office.

The President said under the previously existing rules, the annual general meetings were held on certain dates when the Society elected and appointed its officers. At a special meeting held the other day to consider the rules they were altered, and with the exception of the President and the Secretary, it was provided that all the officers should be elected at a general meeting triennially. His view was that until that general meeting was held, the officers and others who had been previously appointed, retained their offices. What would be the position of the Society if this were not the case. At the present time they would have no Deputy Chairman.

Mr. Craig : My own opinion is that there is no necessity for a Deputy Chairman.

The President : But the rules provide for it.

Mr. Craig : That is so.

The President : Do you make any motion on the matter, Mr. Craig ?

Mr. Craig : No, Sir, except that I wish it to be stated that I dissent from your ruling.

The President said he would make this comment on the amended rules. He was sorry he could not attend the meeting of the Society at which the rules were considered, as he was then in Manchester, but the amended rules did not seem to provide when the next general meeting was to be held for the election of officers, and when the rules were to come into operation. Was it to be three years from the last meeting ? He thought it should be stated that these rules came into operation at the next elective meeting.

Cotton Conference. The Secretary submitted a full report from Mr. J. R. Williams, who had attended the Cotton Conference held at Manchester and Liverpool, as a delegate of the Society. This was directed to be printed as a pamphlet and issued with the JOURNAL.

Prize Holdings Competition. The Secretary read the following memo. with regard to the Prize Holdings Competition for St. Andrew :

I beg to report that at the last meeting of the Board of Management, I was directed to arrange for Mr. Arnett to do the judging of the Prize Holdings Competition usually done by Mr. Cradwick (who is not now available) and usually associated with the Agricultural Instructors for the several parishes. The entries for St. Andrew number 79 so far, and Mr. Briscoe, the Instructor, has managed to arouse a great deal of interest in the competition. Notice should be given of date of judging in the various districts of the parish at least a month ahead so that the entrants may make their final preparations and arrange to be at hand on the dates fixed. It was mutually arranged between the entrants, the Instructor, Mr. Arnett and myself, that the first three weeks in December would be a suitable time for the judging. I therefore arranged a suitable itinerary in the office with Mr. Briscoe, beginning 30th November and finishing 24th December, and sent it on to the Director of Agriculture for approval. I must say that up to that time, October 30th, neither Mr. Briscoe nor myself having heard anything to the contrary, we took it for granted that for this year, and at this late stage of this competition, the Instructor of the parish would be permitted to be associated as judge with the Instructor from another district. The Director, however, intimated that he was not in favour of two judges, and was arranging to transfer Mr. Briscoe to Portland for December.

I have accordingly had to do my best in making arrangements for Mr. Arnett to do the judging alone.

The President said he had received a communication from the Board of Agriculture, recommending that Mr. Briscoe should be sent to Portland to take up Mr. Cradwick's work there.

Mr. Campbell said that as a member of the Board of Agriculture he knew of no such recommendation ; the matter had not been before that Board.

Excellency went on to read a letter he had received from the Director of Agriculture, pointing out that it was necessary to provide some substitute in Portland to take up the duties of Mr. Cradwick as owing to his continued ill-health, it was likely that he would not be able to return to Jamaica until January next, and it was still possible that he would have to get an extension of his leave beyond that period.

Continuing, His Excellency said, that letter from the Director of Agriculture raised certain practical difficulties in the matter, but on the other hand he felt that there was considerable disadvantage in regard to the present St. Andrew's competition in removing Mr. Briscoe from the judging in that parish. He had talked over the matter with those who knew about it, and he thought that there was something to be said against the removal of Mr. Briscoe from St. Andrew. Later on, he intended to speak generally on the subject of Instructors, but what he wanted to discuss now, was whether it was felt that the withdrawal of Mr. Briscoe from St. Andrew would really affect the judging in St. Andrew if Mr. Arnett was called upon to carry out the judging alone. If that would be the case, then they must make other arrangements. He would like to hear the opinions of members on the subject.

Mr. Craig said he did not think Mr. Arnett would be able to carry on the judging in St. Andrew alone. Mr. Arnett did not know that part of the country, nor the people. He did not think it would be fair to assign Mr. Arnett single-handed to this district.

His Excellency asked what were the reasons that were advanced why the holdings of a district should not be judged by the Instructor for that particular district.

The Secretary said the matter had been discussed by the Board at a previous meeting and also by the Branch Societies as well, and it was thought that it would not be right for the Instructor of a parish to judge the Holdings in his own parish. An Instructor could not help having what might be called favourite Holdings and favourite districts, and it was considered that it would be injudicious to call upon him to judge his own work.

Mr. Craig agreed with this view. An Instructor should not be called upon to judge the Holdings in his own district.

Mr. Cousins said it ought to be understood that the chief work in this Prize Holdings Competition, was the work of the Instructor coaching up the people and getting them ready for the competitions. And his own view of economy was that the Instructor would have been the best possible person to go round the parish and judge the Holdings. It was considered that the Instructors could not be trusted to do that, and he assumed that the desire of that Board was that the Instructor should not judge in his own parish. Although he agreed that it was desirable that the Instructor of the parish should go round with the judge, at the same time they must remember that they had had to throw up the work of agricultural instruction in St. Mary and Portland, and the onus was thrown on him

(Mr. Cousins) as the Director of Agriculture, to make arrangements to carry on the work in St. Mary and Portland. He had proposed to transfer Mr. Briscoe to Portland and St. Mary for a few weeks, and that Mr. H. Q. Levy (who was returning to the Island about the middle of December, and who would be willing to take up the work), should go to Portland and St. Mary, and therefore the work in those parishes would be carried on with continuity. He thought that as Mr. Arnett had had a great deal of experience, and could be taken round the districts of St. Andrew by the Secretaries of the Branch Societies, there would be no difficulty in the judging being carried out by him alone.

Mr. Dugald Campbell said he thought that Mr. Briscoe should accompany Mr. Arnett in the judging in St. Andrew, and afterwards go to Portland.

Mr. Cousins : But he is booked to go to St. Thomas in January.

His Excellency read the following extract from a letter which Mr. Arnett had sent to Mr. Barclay :

I note that Mr. Briscoe will not be available for the judging. This is exceedingly unfortunate for St. Andrew as the last competition was not by any means a success, and I understood that the partial failure of the competition last time was largely due to *the one man system* : was it not so ? The only other time there has been one judge was in St. Catherine, when Mr. Cradwick judged alone—but he knew the parish and people well, and yet he told me he would never do it again. Now, in the only two cases when only one-judge system was tried, at the least, cannot be said to have been satisfactory, and in both cases the judges had partly worked up the competition, and both of them knew the parishes and people well. Now how am I to go to a parish and people, of which and of whom I know nothing whatever, and judge the Holdings among a people who do not know me—with any amount of satisfaction, is more than I can understand.

His Excellency said he thought it was expedient that somebody whom the people knew should go round with the judge. He decided that on this occasion Mr. Briscoe should go round with Mr. Arnett in the judging in St. Andrew, more especially as Mr. Briscoe would only be in Portland for three or four weeks.

Bulls. The Secretary submitted a memorandum saying that, owing to the wet weather in St. Ann and to the fact that Mr. Young's waggon had been engaged with his pimento crop, while the bull, as Mr. Young stated, was not one that could travel on foot without danger, he had not removed the bull from Tobolski, but that when the weather held up and the waggon was available, he would do so.

The Secretary submitted the following letters from the Colonial Secretary's Office :

(a) **Re Import Duty on Stock.** (No. 10144/10406/6.10.08). Notifying that the proposal of the Society to exempt from import duty goats and rabbits imported for breeding purposes, was then considered by His Excellency in Privy Council, when it was decided that a resolution should be moved by the Colonial Secretary at the next meeting of the Legislative Council, sup-

plementing that passed on the 15th of January last, giving effect to the proposal.

(b) **Re Visit of Mr. Newstead.** (No. 10721 S.S. 326/22.10.08). Forwarding copy of despatch from the Under Secretary of State for the Colonies, enclosing copy of correspondence from the Liverpool School of Tropical Medicine in regard to the proposed visit of Mr R. Newstead to investigate the cattle tick and other kindred subjects, and stating that His Excellency would be glad if the Society would afford Mr. Newstead all possible facilities in the execution of his mission. The correspondence stated that it would be specially desirable that Mr. Newstead should be officially introduced to all the medical authorities in Jamaica, the agricultural authorities (including the Agricultural Society) and that he should be permitted to work at the Government Laboratory in the Island. Mr. Newstead was willing to undertake the investigation of the scale insect, which at present attacked groves of citrus fruit in the Island, in addition to enquiries regarding the Bionomics of cattle and other ticks.

The Colonial Secretary said that he would be glad to meet Mr. Newstead at the steamer, and asked that the Secretary would accompany him.

The Board agreed, and the Secretary was directed to confer with Mr. Newstead on his arrival and arrange for an itinerary and hospitality.

(c) **Reading Course on Agriculture.** (No. 10787/12302 22.10.08). Forwarding copy of a letter and its enclosures from the Imperial Commissioner of Agriculture for the West Indies, containing particulars of a scheme of Reading Courses and Examinations in Agricultural Theory and Practice, designed to afford sub-managers, overseers and other persons engaged in agricultural pursuits, an opportunity to extend their knowledge and to obtain certificates of proficiency in their profession.

Mr. Cousins said that the matter had been considered by the Board of Agriculture, and it was decided that the scheme was not a suitable one for Jamaica, as it might be for Barbados and other West Indian Islands. The Secretary was instructed to reply accordingly.

(d) **Inspection of Direct Line Steamers.** (No. 10420/12362/14.10.08 and No. 11409/13665/12.11.08). Intimating that the Harbour Master had inspected the fruit accommodation of *S. S. Port Royal* on 24th September, *S. S. Port Kingston* on 8th October, and *S. S. Port Henderson* on 5th November, and had found that the terms of the contract regarding fruit accommodation had been complied with.

(e) **Correspondence re appointment of Expert in Cotton Growing.** The Colonial Secretary wrote forwarding the copy of a despatch from the Secretary of State for the Colonies enclosing correspondence with the British Cotton Growing Association on the subject of the appointment of an expert in cotton growing to this

Colony, and asking for the observations of the Agricultural Society on the matter.

The letter of the British Cotton Growing Association to the Under Secretary of State was as follows :

Sir,—At the Conference held in Manchester last month in connection with cotton growing in the West Indies, attention was drawn to the fact that very little progress had been made in Jamaica, although the field was much larger and the possibilities greater than in other parts of the West Indies.

It has been suggested that it would be advisable to appoint an expert who has a thorough knowledge of the subject of cotton growing, and there is not the slightest doubt that such an appointment is calculated to have valuable results.

I therefore trust that this suggestion may receive your careful consideration.—I am, etc., (Sgd.) J. ARTHUR HUTTON, Chairman.

The Earl of Crewe replied to the British Cotton Growing Association, informing them that a copy of the letter would be sent to the Governor of Jamaica for his consideration, and on receipt of a reply, the Association would be communicated with.

Mr. Cousins said in Mr. Conrad Watson they had a gentleman who was considered to be an expert in the cultivation of cotton in the West Indies. Mr. Watson was now growing cotton in Vere on Lord Dudley's estate, and the results that he achieved would be available for the benefit of the general public. But Mr. Watson was decidedly of the opinion that Jamaica was the most difficult place to grow cotton of which he had had any experience.

Mr. Dugald Campbell said a fair trial had not been given to cotton cultivation in this Island. There were many suitable places in Jamaica where cotton had not been tried, and it was not because it had not been a success when grown on a large scale here, that it would not be successful, in small areas in different parts of the Island. He knew that small patches of cotton had been tried in certain places here, and without having any great care the cultivations had done very well. He thought further trial should be made in various parts of the Island. It would be very regrettable if cotton growing was thrown up at this time.

His Excellency said the question was whether the Board thought it desirable to appoint and pay a special Instructor for cotton growing here. Of course, some of the agricultural Instructors had a certain amount of knowledge as to cotton cultivation already.

Mr. Bourne said it was not for the want of necessary advice, that the planters had not started cotton cultivation on a large scale, but the line that had been adopted on the Board of Agriculture, with which he was associated, was this : that it was undesirable to push the cultivation, and to tell the Instructors that they ought to go about and preach to the peasant proprietors that they must start cotton cultivation and they would be sure to succeed in it. The line that the Board of Agriculture had taken was to advise people to wait and see whether the few experiments that were being tried on a large scale were successful or not. And if the re-

sults of the cultivations that were being conducted by Mr. Conrad Watson were sufficiently good, then people would naturally follow his example. He (Mr. Bourne) attended the opening of the Cotton Conference at Manchester, and he explained to the Conference the attitude which the Board of Agriculture and the planters in Jamaica had adopted so far. And he thought that Sir Alfred Jones and other people who were writing to them on the matter and pressing them to continue the cultivation, understood the attitude that they had taken up in Jamaica, but were still anxious that they should go a little faster than they were going.

In reply to a remark by His Excellency, Mr. Bourne stated that it was a fact that owing to the drought in Clarendon the cotton cultivations that were being conducted by Mr. Watson, had had a bad year, but in spite of the weather conditions, the pecuniary result so far as they had gone, had been fairly good and would have been better but for the drought. And he also understood that Mr. Watson thought that by a larger expenditure the results would have been still better.

The Secretary suggested the starting of cotton experiments among the small settlers on their own land along the routes frequently traversed by the Agricultural Instructors. The extent of the cultivation could be about a chain, and in that way the peasantry would take more interest in cotton growing, and they would have nothing to lose if they were paid to conduct these experiments. The whole cost of conducting a line of experiments of a chain each would not be more than 10s. each. Thus there would be enough experiments provided along the Instructors' route to make it worth while to visit the experiments and inspect them regularly, while they would also provide enough cotton to be sent to him (the Secretary) to be marketed.

Mr. Craig moved : "The Board of Management of the Jamaica Agricultural Society is not at present in a position to recommend the appointment of a definite Instructor for cotton growing in Jamaica, but considers that such experiments that are practicable can be carried out under the supervision of the existing Instructors."

This was agreed to.

(f) Conditions in No. 11491/13113, dated 13.10.08, as follows :
South Manchester

I am directed by the Governor to say that the Rev. Robert Johnston of Cross Keys, Manchester, has suggested that, as a means of relieving the present condition of the peasantry of South Manchester, measures should be taken to prevent the indefinite sub-division of small holdings, and to provide for the compulsory lease or sale of land to meet the needs of a congested population, and to ask that the Jamaica Agricultural Society will be so good as to obtain and furnish for His Excellency's information, a report from Mr. Palache, Agricultural Instructor, on this suggestion.

The Secretary said he had already asked Mr. Palache to make a report on the matter, which would be submitted to the next mee ing.

Mr. Martin said while they were dealing with South Manchester, he would suggest that the Agricultural Society should have an experimental plot in that part of the parish, on the same lines as the plot established in St. Elizabeth, in order to see what could be grown in the district. Coffee cultivation was dying out and they wanted something to grow in its place. There was no doubt about it that in a few years time coffee cultivation would die out in Southern Manchester. It was not at present being grown there at a profit.

It was agreed that Mr. Martin should bring up the matter in a formal resolution at the next meeting of the Board.

The Secretary said that there was a substantial minor industry in St. Ann, in the extracting of the essential oils from seville and sweet oranges. It was not carried on anywhere else in the Island to his knowledge, but there were large districts in South Manchester, Western St. Elizabeth, and around Trinity Ville in St. Thomas and other places, where oranges were not marketed, and where, with the approval of the Board of Management, he would like to try and introduce the essential oil industry. He submitted for inspection the Ecuille, or orange rinder, as used in St. Ann, which he proposed to bring to the notice of the districts mentioned through the Branch Societies.

There would be an article on this subject in the next Agricultural Journal.

Taxes.

The Secretary submitted a letter from the Chairman of the General Board of the Presbyterian Church, forwarding a resolution passed on 25th August last, with regard to the working of Law 5 of 1908 (Parish Law of 1903) and Law 6 of 1908 (Property Tax of 1903) passed recently by the Legislative Council.

Be it resolved that the General Board expresses its strong disapproval of these amendments, and petitions His Excellency the Governor, and the Honourable Legislative Council to have these amendments repealed, and a refund made of the taxes already collected, in excess of those levied before the amendments passed.

The General Board would respectfully submit the following considerations :—

(1) That these amendments create an injustice in that they lay an additional burden upon those who can least bear it, viz :—the very poor—the tax in many cases being doubled.

(2) That an injustice was done in that due notice was not given that the taxes would be raised. These amendments being published in *Gazette* of April 9th, of current financial year.

(3) That such a time, when the Island is not yet recovered from the recent severe drought, and when in many districts there is acute suffering, for the relief of which works have had to be undertaken by the Government and Parochial Boards, is most inopportune for the raising of taxes.

Extracted from the minutes of the General Board by

(Sgd.) H. HOPE HAMILTON.

Mr. Martin said he thought the chief complaint was not so much against the increase of taxes, but the people had had no notice

of the increase, and when they went to the Tax Office prepared to pay the same amount as the year before, they were then told they would have to pay more.

The Secretary said also that he had been advised that Collectors of Taxes refused to take the amount of the old taxes as an instalment.

The Colonial Secretary said that this was a 'bug-bear' often raised, but he did not think it was correct. He thought the most that could be added to anybody's taxes in one year in an extreme case would be 3/4.

The Governor said he did not think the Colonial Secretary was quite right, as the taxes in the parishes varied with the rate, and in some parishes it might be 4/2.

On the motion of Mr. Craig, it was decided to inform the General Board of the Presbyterian Church, that the matter of the incidence of taxation was a political one and more suited for the representatives of the Legislative Council to take up than the Agricultural Society.

The following resolution from the Trinity Ville Branch was submitted :—

“That in view of the importance of the orange industry of this Island and of the danger of the trade being completely ruined by the shipment of immature and carelessly handled fruit, this Society begs to urge on the Government the necessity of appointing Inspectors at the various shipping ports.”

The Governor said that this matter had been brought up year after year and proposals had been made to deal with shipments of immature fruit. The orange trade itself, however, had always been against any legislation in the matter. Whenever there was a strong movement among those most interested in the orange trade that any action should be taken he would be prepared to take the necessary steps. At present he could only say that he thought most of those concerned in the orange trade were alive to the danger, but they apparently did not all agree how to act in the matter.

The Secretary was instructed to inform the Branch Society to this effect.

Cocoa Pods.

A letter was read from the Commercial Intelligence Branch of the Board of Trade, London, asking for the names of planters who might be willing to supply the dry husks of cacao pods direct to Mr. Theric Mallen c/o Worms & Co., Rue Grignan, Marseilles. Offers might be made for the first shipment of 40 or 50 tons. An industrial use had been found for this product but this depended on the utilisation of its colouring matter or mucilage. The Secretary was instructed to ask for the prices offered per ton.

Price of Cotton.

The Secretary submitted market report *re* price of cotton, which stated that there was a general consensus of opinion that prices were near the bottom, and that as soon as the strike in Lancashire was over better conditions would prevail.

Ippi Appa Hat Industry in Grenada. The Secretary submitted a letter from a member of the Agricultural Society in Grenada, asking if he would be willing to help to establish the industry there if it would be no detriment to the workers here and if the Government of Jamaica and Grenada would allow it.

He was instructed to give the assistance desired.

Letter from Secretary W I. Committee. A letter from the Secretary of the West India Committee with copy of report of labour conditions in San Thome, was submitted. This was tabled.

Grants to Shows. Applications for grants to shows were made by Sav.-la-Mar and Kendal, which were granted under the usual conditions.

Applications for Affiliations. Applications for affiliation were submitted from (a) Gibraltar, (b) Ulster Spring, and (c) Spanish Town.

Gibraltar and Spanish Town were duly affiliated, but with regard to Ulster Spring a discussion arose. The Governor asked if there were to be two separate Societies at Albert Town and Ulster Spring which were only three miles apart. The Secretary replied that that would be so; that a dispute had arisen between the two sections of the Upper Trelawny Agricultural Society, at Albert Town and Ulster Spring, and that the papers in the matter had been submitted to the Instructors Committee, who had recommended that the matter under dispute, viz:—the retention of the funds of the Upper Trelawny Agricultural Society by the late Treasurer who was now one of the Vice-Presidents of the Ulster Spring Society, should be left in the hands of Mr. Arnett (the Instructor), and the Secretary, to arbitrate.

The Secretary suggested that meanwhile Mr. Forbes should be asked to pay over the funds in hand to the parent Society, to be held in trust until the matter could be settled and thus remove one of the difficulties as to affiliation.

It was resolved however, on the motion of Mr. Bertram, seconded by Mr. Bourne, "That the Board of Management of the Jamaica Agricultural Society declines to allow the Ulster Spring Agricultural Society to be affiliated until the late Treasurer of the Upper Trelawny Branch, now Vice-President of the Ulster Spring Society, hands over the funds to his successor." This was agreed to.

Secretary's Visits. The Secretary submitted reports of his visits made since the last meeting, and also an itinerary of his proposed visits, which would be circulated among the Instructors' Committee.

Instructors' Reports. The Instructors Reports and Itineraries were also submitted.

The Secretary said that Mr. Palache, owing to threatened indisposition, asked for a month's leave of absence, as at any rate December would be broken with the Christmas holidays, and the

people's attention would be taken up with religious services to be held. Mr. Palache had been asked to make a report on the conditions of South Manchester which would take up some time during the month. The leave asked for was granted.

Mr. Palache also asked leave to transfer the experiment ground so far as regards provisions from Yardley Chase to Bellevue near by, as it was better suited. The cotton would be still at Yardley Chase.

New Members.

The following new members were elected :—
R. E. Irwin, Canal Zone ; E. Tavares, Kingston ; John Gordon, London, England ; A. C. Delincourt, Bath, England.

Instructors.

His Excellency the President said there was a matter on which he desired to receive the serious consideration of the Society, but he thought it would be better if he wrote a formal letter on the subject so that the Board might consider it in that form. If they had a meeting in December, they could discuss the matter and pass any resolutions they thought desirable, so that they could be brought up and submitted to the half-yearly general meeting.

The point he was going to write them about was as to certain alterations in the arrangements for the agricultural instructors. He did not yet know exactly what to propose, but it had been suggested to him that in the first place, they should extend the work of the agricultural instructors, if they could, so as to make the work more continuous all over the Island, than at present. He thought the members of that Board recognised how desirable it was to do that, if they could find the ways and means. And in connection with that, it was desirable that they should put all their instructors under one management. At the present time they had two instructors—Mr. Cradwick and Mr. Briscoe—who were paid out of the funds of the Colony and were on the fixed establishment, and the Jamaica Agricultural Society, with the assistance of a portion of the Elder Dempster subsidy, had increased the number of instructors formerly employed by them, and now the Society had more instructors than the Government. It was thought to be desirable that all these instructors should be under one direction, and from the point of view of practical utility, they should all be in touch with the Jamaica Agricultural Society, and with the local Branch Societies, so that the system of working in the parishes could be placed on a better footing. And if they had the instructors under one management, he was inclined to think that that management should be the Jamaica Agricultural Society and its Branches.

That was one matter, and there was also a question which he wanted to discuss with the Board of Management at the next meeting, viz: whether it was necessary to maintain continuously the present Board of Agriculture, or whether they could, (as was contemplated when the Board of Agriculture was first established) seeing that they had now established a Department of Agriculture, amalgamate the two agricultural bodies. That was to say dissolve

the Board of Agriculture altogether, and hand over certain of its functions to the Agricultural Society. The idea was to get rid of the Board of Agriculture and do what was originally contemplated when it was established, because it was only intended to be a temporary body. If that were done, some of the functions of the Board of Agriculture could be vested in the Jamaica Agricultural Society, and some in the Department of Agriculture. He would send a letter to the Agricultural Society, to be first discussed by the Board, so that they would have full discussion on the whole matter at the next general meeting.

The meeting adjourned to Thursday, December 17th, at 11.40 a.m.

ESSENTIAL OILS.

There is a small industry in St. Ann in extracting the essential oils from citrus fruits, sweet oranges, seville oranges, limes and lemons. A simple machine called an orange rinder is used for extracting the essential oil to which we refer. It is made of copper in the form of a shallow bowl, studded with long spikes, with a hole in the centre, at the bottom of the bowl, to which a funnel is attached blocked at the end. It is in this funnel that the essential oil collects when the skin of the fruit is rubbed on the spikes.

In many districts of the Island there is an abundance of both sweet and seville oranges, but owing to their great distance from the buying centres, very few if any sweet oranges are marketed; no seville oranges are marketed anywhere. In the districts where oranges can be sold, we suppose that not more than one in a hundred is shipped; there are hundreds of thousands rejected and flung down in heaps at the buying depots, and there are hundreds of thousands that hang on the trees only to drop in the fullness of time. In all such districts a little money could be made in taking the essential oil from the rind of the sweet and seville oranges. This is good work for women, and by it in the orange season they could make from 4½d. to 1' a day, according to the handiness of the fruit and their own industry.

We shall be glad to send rinders, which cost 15/ to 20/ each, to any of the Branch Societies, so as to get their members interested in making a trifle out of citrus fruits, which are now going entirely to waste. The Newmarket Branch could take this up, so could the South Manchester Branch and the Trinity Ville Branch,—in fact all the Branch Societies wherever oranges are grown, and we have communicated with the Secretaries, calling attention to the foregoing article in this JOURNAL.

We have had several inquiries about essential oils, and how to utilise the thousands of citrus fruit going to waste. We therefore asked Mr. Arnett, the Agricultural Instructor, to get practical in-

formation on the subject in St. Ann, and he sends the following interesting matter :—

ORANGE RINDERS.

Mr. J. Jones of Brown's Town, St. Ann, makes two kinds—one adapted for *sweet oranges*, and one adapted for *seville oranges*. The oil cells in the sweet orange are closer than in the seville orange. The spikes therefore in the rinder for pricking the cells, have to be closer in the rinder for the sweet oranges than for the seville. The rinder for *sweet oranges* can be used equally well for seville oranges, but it is not profitable to use the *seville orange* rinder for sweet oranges, as it takes longer, and it is likely that all the oil may not be extracted. In case of using the rinder for *seville* and *sweet alternately*, great care must be taken to wash the rinder carefully and dry it before changing from one to the other, especially so when changing from seville to sweet. Both rinders cost 20/ each. A reduction may be made when more than one is required. Mr. J. C. McIntyre, Claremont, also makes a rinder at 15s. each.

ESSENTIAL OILS.

(a) It is important that the fruit should be at the proper stage of fitness. If *too ripe* the rind gets pithy and is liable to crack and let out the juice, and it is more difficult to rub. If *too green* the quality of the oil is not so good and it soon loses its colour and becomes pale. The fruit should be well full or fit, a *yellowish green*, in colour.

(b) How to extract.—The rinder is held firmly in the lap and the oranges *gently* rolled over the spikes, until all parts of the rind have been pricked just enough to open the oil cells. But care must be taken not to press hard enough to prick the rind so as to let out the juice, as this will give more trouble to clarify the oil, and it may also tend to turn the oil rancid. As soon as the funnel shaped receptacle at the bottom of the rinder is full, it should be emptied into a clean, dry bottle and *tightly corked at once*, so as to prevent evaporation, and especially to keep the oil from turning rancid. As soon as the bottle is full, cork tightly and put away to settle. Great care must be taken *not* to rind the fruit in *wet weather*, or when the fruit is damp or wet from any cause, and all bottles and vessels used must be *dry*, as the least water allowed to get in the oil damages it and may spoil it altogether. *Trash or paper corks* should not be used, but good, sound *clean* corks only.

(c) *The cost of extraction.*—Different prices are paid for extracting the oil, the general average seems to be from 9d. to 1/ per pint—the person who extracts the oil to gather their own fruit. A woman who is fairly handy in the use of the rinder can easily extract a pint in a day, and some I believe do much more. In case of sending the rinders to a property to extract the oil, it is usual to pay the property 1/ per pint for the oil. As far as I can gather it takes from 300 to 500 oranges to give a pint of oil.

(d) What to do with the oil, how to clarify, etc.—If intended to be sold *locally*, all that is necessary to be done, is to allow it to settle for at least *twenty-four hours*, by this time the oil will have risen to the top, then throw off carefully into *white* quart bottles, filling right up to the cork and cork tightly with a *sound, clean* cork, putting a little beeswax on the top of the cork to make sure it is quite air-tight. If intended for *export*, it will be necessary to take steps to further refine or clarify it. There are different ways of doing this.

1. After allowing it to settle for at least twenty-four hours, a funnel is made with cartridge paper and put into the neck of a clean bottle, and the oil allowed to drip through. If not sufficiently clear the operation to be repeated.

2. Another method is to strain it through a piece of *clean white flannel*, either a very thick one or double it. Repeat if necessary.

3. Mr. J. Jones also makes a coffee strainer with a funnel at the bottom into which is pressed some cotton fairly tight, and the oil allowed to soak through.

The most important thing is not to allow it to be exposed to the air longer than is *absolutely necessary*, as the longer it is exposed the more danger there is of it losing colour and becoming rancid—that is it gets a scent like turpentine.

(e) *Where to sell, etc.*—The oil can be sold at a fairly remunerative rate locally. It is also not difficult to pack it for export. The most usual way seems to be to pack as many quart bottles as can be safely packed into a barrel and shipped in that way. Mr. J. Barclay can give information as to where it can be sold locally, the price per quart bottle, etc.

I have been informed that there is only a limited demand for the oils on the market. If this is true, it would appear to be wise to make the industry a means of merely using up the seville oranges and the surplus only from the sweet orange crop, rather than to go in for the production of the oils in anything like a wholesale manner. However, there is one thing in its favour, it takes little space to store, and provided it has been carefully handled and kept absolutely air-tight, it can be kept and wait for the market.

E. ARNETT, Stewart Town P.O.

THE SWEET POTATO—(*Ipomea Batatas*).

THIS tuber forms an important factor in the food supply of the people of Jamaica, and in the Southern portions of the parishes of Manchester and St. Elizabeth. I question very much if it does not form by far the largest part of the vegetable diet of the peasantry. If it were not for the large crops planted by the people in the Marlborough, Moreland, Hope and Spur Tree districts of Manchester

and in the Y. S., Ipswich and Bartons districts of St. Elizabeth last fall, and which were ready for market in May, June, and July this year, it is difficult to say how the people in South-West Manchester and South-East St. Elizabeth would have got through the terrible scarcity of ground provisions produced by the prolonged drought.

Notwithstanding its value to them, the methods of cultivation adopted by the peasantry are most crude and unsatisfactory, and much as I try to impress on them the importance of giving due attention to the cultivation of this valuable esculent, the progress is but slow and tedious. I trust therefore that a few notes and suggestions on the subject in the JOURNAL may prove of some service.

Sweet potato is very subject to hybridisation by insects; and consequently, grown together as hereinafter described, the varieties have so mixed and become multiplied, that they may now be said to be legion. Early, medium, late, prolific and worthless, some are vigorous growers with large stems and leaves, others light of stem and leaf, and so stiff and short of growth, as not to be strictly styled vines but shrubs. The practice is to plant all the varieties together indiscriminately as slips can be got, with the result that the vigorous growers (and the most worthless sorts generally assume this form), overcrowd and choke out their less vigorous neighbours. When the earlies are fit to reap the lates are just beginning to bear, and are destroyed in the reaping. If the earlies are left until the lates are matured, they become corky, spongy and very often begin to grow and are useless for food.

The preparation of the land is usually anything but sufficient. Often this is the way. A little bush is chopped, fire run over it, and the slips stuck in with a hoe or cutlass and left to cover the ground, one weeding is given, after that only when the potatoes are being reaped are the weeds taken out. The Marlborough, Moreland, Hope and Spur Tree people of recent years, are adopting a much improved method. They are planting in hills and to a great extent abandoning the use of fire, while all the grass and debris is being dug into the soil. The hills are placed so close together that the land may be said to be ploughed all over, three or four cuttings are placed in each hill, weeding is periodically and systematically done, and the crops I saw being reaped during July when the St. Elizabeth folks were up in Manchester buying, were very good indeed, although there was a good deal of waste owing to their still being careless enough to mix the different varieties, early and late.

I have long been impressed with the idea that something ought to be done to classify, arrange and name the numerous varieties, almost every variety of any value has a different name in every district, and it is difficult to recommend what to plant owing to this.

With our people nothing succeeds like actual demonstration, and I have recently started here an experimental plot, and I am gathering all the distinct varieties I can get and growing them in separate sections, with the view of finding out the respective qual-

ities of each variety and giving it its most generally known name. As at present known the best varieties are :—

Earlies—John Christian or Round Red, Sarey, Red Mingo and White Mingo.

Mediums—Lewis Daly or Full Pot, Jane Dennis and Parson Prince.

Lates—Thompson's Favorite, Porus Pigeon Neck and Josephs.

A quarter of an acre divided into sections, and each section planted with one of each of the above varieties during the month of November, will give a family a plentiful supply of potatoes during the months of May, June, and July. before the yams come in, besides impounding a plentiful supply of fodder for the small stock of the holding, at a time too when feeding for these animals is always scarce.

In rich, wet, heavy soils, the best system of planting is by means of banks and hills, as by raising the soil natural drainage is provided as the sweet potato rots immediately as it gets water-logged. In hard, dry soils, like South Manchester and South-East St. Elizabeth, the best method is simply to plough the land and put the cuttings in at equal distances each way, say one foot apart, keep clean until the vines have completely covered the ground, then all that is necessary to be done, to draw out any tall weeds that appear above the potato foliage.

I wish some of your readers would start experiments in different parts of the Island, so as to arrive at the best variety for each district, for I find one variety that does well in the mountains does not do well in the lowlands and *vice versa*.

Another interesting experiment might be made with seeds, and ascertain if some new varieties of value could not be produced. This method adopted with the Irish potato, has done wonders in restoring the vigour, and if not entirely getting rid of the potato disease, at least in checking and keeping it down.

I am very often told that certain varieties of sweet potato are not bearing as formerly in certain districts, and that fungi and other pests are attacking the roots and preventing them from bearing as they formerly did. There are certain signs of loss of vigour and degeneracy in the plant. There is nothing to be surprised at this. The same slips are used for cuttings year after year, land is cropped without rotation or proper tillage. New seedlings will serve to restore vigour and aid in combating these difficulties. I am experimenting now with some seedlings. One was given to me by a Mr. Pitter, a large potato cultivator at Waltham Mountain. He said it was so good, he had named it "Saint." It was remarkably early, the day you planted the cuttings you were to plant red beans round the hills or banks, and when the beans were ready for soup the potatoes would be ready for the soup also. I tried it and found he was quite correct. I planted a bank of this variety from cuttings Mr Pitter gave me, and the same day I planted a row of round red

beans on each side of the bank. The red beans were ready in 10 weeks, and there were quite fair sized tubers of the potatoes in the bank that could have been gathered to join the beans in the soup. I am keeping all the cuttings of this potato for propagation, for if in further trials it retains its rapid bearing qualities, it will be the earliest variety known, and exceedingly valuable for planting after droughts and hurricanes to relieve the stress of scarcity of food that generally follows these calamities.

Another good plan to adopt when the potatoes are showing signs of degeneracy in any given district, is to get fine healthy tubers from another district, set them in a trench standing on their smaller ends, and cover the tubers with soil to half their size and the rest with straw. Then as the tubers grow slip off the sprouts when about one foot long, and plant them in land carefully prepared for planting, and a new and vigorous supply of plants will be obtained, capable of resisting disease and adapting themselves to the new environment.

I am quite aware that several very wise people in this community treat what they term "these small matters" with contempt, and a smile and shrug of the shoulders is all you get when attempting to suggest improvement in this direction. But I do not think that in Great Britain suggestions as to the cultivation of their staple article of diet would be slightly treated. Why, therefore, should this be the case in Jamaica with so important an article of diet as the sweet potato.—J. T. PALACHE.

[We cordially agree with Mr. Palache that what are usually accounted minor products should not be neglected. Mr. Palache has, under trying conditions, done a great deal for the food crops of the Island, and while as we know, plenty of people will readily draw upon his fund of information about these, they are not so ready even to give him even a little credit for it all. We have given close attention to our food crops, and in doing so, have not in the least required to neglect necessary attention to our staple products—bananas, cocoa, coffee, etc. The St. Vincent yams introduced freely at the time of the hurricane have been a great success and a good stand by in the drought. The Lucea yams brought in large quantities from Hanover and sent over St. Andrew at the same time have been a great success there.

We are constantly sending out potato slips from different parts to other parts, supplying selected seed corn, cowpeas, red beans; the new red guinea corn, we have found to be a quick grower, a large yielder, and most nutritious as food.

In all these efforts, Mr. Palache is a great helper.—ED.]

HEALING OIL.—We have frequently used the term 'Jamaica Healing Oil' in referring to the valuable preparation advertised in this JOURNAL by the P. A. Benjamin Manufacturing Co., and we are taken to task that this is not the proper designation. Our readers should always remember that it is Benjamin's Jamaican Healing Oil that we mean.

ADVERTISEMENTS.

Readers of the Journal, when you plunge into the reading matter the moment you get the green covered book,—when you have read the proceedings of the Board of Management and noted how they interest themselves in so many important matters affecting agriculture and the best welfare of the Island, when you have gone on to read of the efforts being taken to save trees from the spread of serious diseases, when you have also read what is said about our cocoa trees especially—one of our most valuable and progressive industries,—when you have absorbed the ideas given about live stock, and got some useful hints how to get rid of insect pests, and read what is said about our bird friends, noted what shows are to be held, and read over the notes sent in by the Branch Societies—we hope you will turn over and read the advertisements, for these are very interesting and can be most useful to you. We wonder if you have ever noticed the advertisement of the device to pull stumps out of the ground; this machine works expeditiously and easily, with two horse power or mule power; cattle can be used also. A catalogue will be sent free for the asking. Life Insurance Companies give you their figures and point out their advantages. An Accident Company warns you to hold an accident policy. You can take your choice of drinks and you need not try any other whiskies or rums than those advertised in the JOURNAL. Hardware merchants show you what they have to sell; look up the page with the illustrations of ploughs, consider it if you want an aerated pump for your tank, or new forks, pruning shears or knives. Do you require lumber to build houses, or do you need medicines for stock. Do you want to know where to buy the best corn and oats; how to get electric light fitted up; where to get printing done; where to buy your sugar and flour and cornmeal; the best cigars and cigarettes to use (Machado's); where to get your dry goods; where to sell your coffee, cocoa, pimento; the best of all embrocations to use (Elliman's); the most refreshing and palatable beers (those made by the Nassau Brewing Company), then look at our advertisements.

Another important point is to study that page which tells you about the fine steamers of the Royal Mail Company which will carry you north to New York, and then transfer you for anywhere else, or take you south to Central America and on to other parts of the West Indies. The Royal Mail Co's steamers are big, steady, safe, comfortable steamers, where passengers are well done by. All such information as will help you to know what to buy, and who to buy from is to be found, between the covers of the AGRICULTURAL JOURNAL.

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TO ADVERTISERS.—A correspondent from Manchester who was for a long time in Canada, writes us as follows:—"Let me suggest that if your advertisers gave a list of the goods they sell it would pay them better than simply a large display of their names. Such

lists would be a sort of catalogue for country customers. Four times I have imported goods from the States which I might have got in Kingston, but did not know where to go."

Advertisers please note.

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As an example, we give the following letter :—

Can you recommend a remedy to kill white wood ants ? There is a white kind in this district which live in the ground, they have no "nest" nor "hill," but make a tiny burrow and live inside wood, which they eat out. They are a pest in my apiary, destroying bee boxes, bottom boards, and frames. I should be glad if you suggest a remedy.

Port Morant, 7th December, 1908.

[We have had several letters like this, and have recommended the use of two articles, sold by hardware merchants, and which can be immensely useful to all agriculturists, yet these are not advertised in this JOURNAL. We think some of our advertisers are losing opportunities in not making the most of this JOURNAL as an advertising medium.]—ED.

WRONG USE OF LIME.

WITH reference to paragraph on page 264. JOURNAL for August :—

I was overseer of a certain estate, and had about thirty-six hogsheads of sheep manure to apply. The attorney, who was also the proprietor, ordered me to mix one hogshhead of manure with two of stillhouse ashes, about the worst thing that could be done. However, I had to obey orders. While the manure was being applied, the proprietor returned accompanied by another attorney. The latter asked me if I did not know that the wood ashes would liberate the ammonia ! Of course I knew, but did not like to give away the proprietor.

Overseers frequently get blamed for the great ignorance of many attorneys. I knew an overseer who got fits for spreading mashed trash in his canefield. As a matter of fact mashed trash is a magnificent mulch, and does nearly, if not quite as much good as fly-penning.

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I WAS once manager of a large estate. The attorney ordered me to cart all the stillhouse ashes into the cattle pen, and spread them. On his next visit, I told him I was spreading the ashes in the pen according to orders. But at the same time he could not have given a worse order, as the ashes would set free all the ammonia. He then told me to do as I believed with the ashes.—R. J. TAYLOR-DOMVILLE.

CAMPHOR trees in Japan are stated to bear their first crop of seeds when from twenty to twenty-five years old. Trees twenty-five years of age, in Ceylon, however, have not yet flowered. Camphor seeds do not retain their vitality for more than five months.

RUBBER.

IN a lecture given to the Kelani Valley Planters' Association, Ceylon, September 14, 1907, the following wise words occurred :—

Some people new to the work think we know all about rubber and have nothing to do but tap our trees for all they are worth, and sell the biscuits. Those of us who have been longer acquainted with the rubber tree know that there is a great deal that we do not understand, and a great deal to learn. We shall not give a dogmatic paper, therefore, but endeavour to provoke discussion and see whether we cannot learn something by interchange of ideas. For fear anyone should think we are running down Ceylon, we may say our remarks apply equally to other countries. And after going fully into methods practised, the lecturer summed up : Why is Ceylon rubber so variable in strength? Why is it not up to South American Para? Are we tapping our trees too young, or too small? Is the tapping that is going on too severe? How are we to reduce the amount of bark-cutting without loss? Shall we rest the trees, and if so when, how often, and how long? Shall we cut one side and the other alternately? Shall we reduce the frequency of tapping? And if we do, do we get more latex, richer latex, and stronger rubber?

STOCK NOTES.

PREVENTION OF BLACKLEG.—Messrs. Parke, Davis & Co., Detroit, Michigan, U. S. A., who advertise in this JOURNAL, have received the following letter among others :—

"I gives me great pleasure to inform you that during the last six years, since using your Blacklegoids, I have not lost a single cow or calf. I vaccinate 30 or 40 cattle each year, as soon as they appear on my premises. For the benefit of stock raisers who have not used Parke, Davis & Co.'s Blackleg Vaccine, and who may not be familiar with it, I wish to say that I lost several hundred dollars' worth of cattle most every year before beginning its use. I heartily urge farmers to make use of your product, as it costs only a few cents for a vaccination and saves so much.—F. J. ROBERTS, Lebanon, Kentucky."

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SCOURS IN CALVES.—Another remedy for scours in calves is given in the *Queensland Agricultural Journal*. It is half pound of butter mixed with a tablespoonful of baking powder made into a soft paste, and the cure is effected in two hours.

Our practice is, first, dose of a tablespoonful each of castor oil and cocoanut oil followed 12 hours later with two to four table-spoonsful of arrowroot preferably, but common flour is a fair substitute, with a tablespoonful of carbonate of soda, made into a pap, and administered morning and evening of the same day. The scour stops at once, the second dose confirms the cure.

JERSEY COW.—There is a Jersey cow in St. Andrew which was still yielding about eight quarts of milk without coaxing or forcing when about to calf. In fact the desire of the owner was to stop her milking, but he said he couldn't. When this cow calves it will be likely to have a bad time, and even with its extraordinary vitality it will require good feed to keep up the flow of milk. A persistent milker can be dried off by taking a little less milk from her every morning beginning two months before calving.

Time was when the writer felt very proud when one of the grade cows in the herd had given milk right up to time of calving. Being a heavy milker, it had been considered wise to allow her to do this rather than make a decided effort to cause a cessation of the flow. Yet subsequent events proved that such a course would have been wiser, for the animal's usefulness was impaired, and she never again did as well.

A few such experiences were sufficiently convincing. For best results as to both the dam and offspring, the flow of milk should cease for at least one month, and six weeks is better. Longer than that, we believe to be unnecessary. Occasionally a cow is found which can stand the drain on her vital forces sufficiently to enable her to continue in milk from one year to another without cessation, but such instances are not common nor are they to be encouraged. An increased milk yield, and more vigorous young, demand a rest period.

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WEANING PIGS.—When weaning the pigs, do it gradually. When a sow is giving a good flow of milk and the pigs are taken away suddenly, there is a danger of causing an inflammation of her udder which will impair her future usefulness. The better way is to cut the feed of the sow down, and provide some skim-milk and middlings in a run for the pigs where they can get it several times a day. By this plan the safety of the sow is assured, and the pigs will get no check in their growth.—*Farm and Life*.

It is unfortunately often the case that a whole litter of young pigs is taken from the brood sow in one day, but more often it is done one by one, the biggest of the litter first, and so on, the puny one,—there is generally one smaller than all the rest—being left to the last.

Thus the sow is gradually accustomed to the loss of the young ones, and the backward ones are helped along.

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FEEDING HORSES BY WEIGHT.—A French authority, who made a comprehensive experiment in feeding horses by weight (his operations including 30,000 animals), ascertained that it required a round 4½ lb of mixed feed, hay and grain, for every 220 lb of live weight. In the ratio of 2 lb of grain and 1 lb of hay for 100 lb of live weight, a horse weighing 1,000 lbs. would require 20 lb of grain and 10 lb of hay for stationary maintenance when doing regular service.

PHOSPHATE AND ANIMALS.—Animals develop rapidly, have strong muscles, and the breeds improve when the pastures have been well fertilised with a phosphate. Phosphates act directly upon the bones of the animal, which are composed largely of phosphate of lime, supplying the needed material for repairing waste tissue and building new cells. A top dressing of Thomas' phosphate will improve even the best pasture, but is now-a-days a necessity on old and worn pastures.

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FEEDING THE DAIRY COW.—Our present knowledge of feeding can be boiled down into the following maxims:

The more food the cow can be induced to eat, the more milk she will produce. Cows do not usually consume more food than they can properly digest. The ration, therefore, should be made as palatable as possible in order to induce the cow to eat large quantities.

The larger the amount of protein in the ration, the larger the milk flow. Protein in the ration is essential to the production of the milk.

The less energy required to digest the ration, the larger the milk flow.

The richer the ration the richer the manure. The dairy farmer must look here for a large part of his profit.

No two cows can be fed alike. Each must be studied differently. Increase the protein in the ration and watch the milk flow.—Professor C. L. BEACH.

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COW'S HUGE YIELD OF MILK.—Both the open milking trial and the butter-test at the Show of the Tunbridge Wells and South-Eastern Counties Societies (Eng.), were won by a cow belonging to Messrs. Green Brothers of Goring, which gave the astonishing quantity of 77 lbs. 12 ozs., equivalent to more than seven and a half gallons of milk during twenty-four hours. This milk was so rich in fat that the cream after separation produced 3 lbs. 9½ ozs. of butter. Messrs. Green's cow is a cross-bred brindle about eight years old, one of her ancestors in all probability having been a Jersey.

At the Royal Show, a Shorthorn cow belonging to Lord Rothschild, won in the milking competition with a yield of 78 lbs. 12 ozs. ; fat percentage, 4 per cent. She was 83 days in milk too.

Seventy lbs. of milk is about equal to twenty-eight quarts.

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BLINDERS.—The horse that is educated to go without blinkers, (or "blinkers"—well named) is much the safer horse. It is not what the horse sees usually that he scares at, but that which he imagines he hears or sees. Bad eyesight is the cause of shying very often, or merely getting a glimpse of things which startle him, when, if he could see them, he would not think of getting scared.

POULTRY NOTES.

The egg-laying competitions held in the Australian States have attracted world-wide attention. Perhaps South Australia has led in these competitions. The last contest which was started on April 1st, 1907, was of twelve months' duration, and finished on March 31st of this year: this is the fourth competition.

In the first competition there were 26 pens of 6 hens each, the winning score being 1,032 eggs, made by silver Wyandottes, and there was an average of 132 eggs per hen for the 156 hens competing.

In the second competition there were 31 pens, showing an average of 117 eggs per hen, won by black Orpingtons.

In the third test there was an average of 171 eggs per hen won by white Leghorns.

In the test finishing this year, there were 42 pens of Leghorns, 19 pens of Orpingtons, and 14 of Wyandottes. Nineteen birds were lost by death, principally caused by the excessive heat, the shade temperature at one time registering 113 degrees. White Leghorns made a clean sweep this time, the first nine pens being of that breed, the first pen having a total of 1,531 eggs, with an average weight per dozen eggs of $25\frac{1}{2}$ ounces, or a total of 255 eggs for the year. The lowest pen, buff Leghorns, only laid 108 eggs per head; the highest pen had a total of £5 6s. 9d. as the market value of the eggs laid, the lowest pen earned £2 1s. 11d.; the average profit per hen for the food supplied was 6s. 4d., and the average price per dozen eggs was 9½d. only. The cost per bird for food was 5s. 4d. for the year.

It would be interesting to poultry-keepers to know that these birds were not coddled in any way. No artificial foods or special preparations were used, nothing but plain simple feeding and wholesome food. The birds were first fed at 7 a.m., with a mash composed of bran and middlings, one part bran to one and one-half middlings. This was mixed with hot soup during the cold and wet weather, and with cold water only as the warm weather came on. The soup was composed of water in which sheep's head had been boiled with refuse from the garden, such as carrot and turnip tops and cabbage leaves boiled in it.

It is a curious thing that the best layers were among the lightest eaters. At twelve noon a quantity of green food was given, and in the evening mixed grains, maize, oats, wheat.

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ALL fowls should be through the moult by December, and if they have not started to lay there must be something wrong with the conditions that exist. A good many poultry keepers have called at this office, and many have written us, asking why their hens won't lay. We refer them to page 387 of this JOURNAL. If the things mentioned there are not at fault, if the hens are young, healthy and well kept, and still won't lay, then try the following

plan :—Give a dose of Epsom Salts in the drinking water, of about one tablespoonful to two quarts of water. Make sure that the fowls must drink this by cutting off any other water supplies. You may be feeding too much or too little. Stop soft food except what scraps you may have, and feed these in the morning, and if they are not enough to provide a handful to each fowl add sufficient good Scotch oats, if they are handy, or cracked country corn (but not American corn, stop it if you are using it) and note when the corn is cracked in the mill to sift the fine flour out of it. Scatter at the rate of a small handful of this to each fowl, far and wide, below bananas or coffee or cocoa, on the commons, or among trash, so that the fowls must look for the grain and will continue looking and scraping most of the day. Repeat with a handful of oats or crushed corn at 3 to 4 o'clock in the afternoon. If you have fed less or more than this, increase or lessen accordingly. The maxim is, keep the fowls busy. Make comfortable nests in a quiet corner, and put a nest egg in each. This will help to induce the fowls to lay.

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This is the time to mate up your best hens with a good cock to get the eggs from the best for setting. The best eggs for setting come from last year's pullets now coming into their second year of laying, mated to a cock of the same age, or a vigorous young rooster, older hens should only be kept if especially noteworthy, and these should be run with a young rooster.

Above all, do not inbreed. If you still have your old rooster and are keeping his progeny, get rid of him and get a fresh cockerel.

COMMENTS.

KENDAL SHOW.—It is with genuine pleasure that we report on the unqualified success of the Kendal Show, held on 25th November. Some years back, this show, which was once the most popular of all shows with exhibitors and visitors, languished, but this year all previous shows at Kendal were surpassed in the quality of stock shown. The agricultural products too, were a great improvement on recent years.

There was a competition especially for local Agricultural Societies, but only Newmarket and Appleton took part, Appleton winning. The Branch Societies in Manchester were very apathetic, but now, seeing the interest aroused in the neighbouring parish, they may take the matter up keenly at the next show. At no show in the Island have we seen horses got up better for show purposes; and yet it is always said that November is a hard time of the year to get horses into condition in Manchester. The cattle also, we think, eclipsed anything shown at Kendal before. The sheep were in fair numbers and got up in the best style for showing. Pigs and fowls were poor. Mr. Palache, Instructor for Manchester, had an interesting and instructive display of Belgian hares and their crosses with common rabbits, showing the immense improvement of one cross.

Mr. A. C. L. Martin having won the champion prize in Horsekind for three years now, keeps the champion cup. Mr. M. Malcolm of Knockalva, won the champion cup for cattle with his Herefords; the black polls did not quite come up to what we have seen some years before. At the next show there ought to be a good turn out of Shorthorns, with the influence of so many imported bulls in the parish. There was a first rate attendance and the gate money was close on £100.

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VISIT OF PROFESSOR NEWSTEAD.—As referred to on page 403, Professor Newstead and Dr. Prout from the Liverpool School of Medicine, duly arrived in the Island. Professor Newstead will make a special study of ticks and scale insects. An itinerary has been arranged for him, which will include visits to various centres in the Island, as follows :—

December 9th to 12th, Knockalva in Hanover, and Kew Park in Westmoreland.

15th to 17th, Constant Spring.

18th, Halfway Tree Pen.

19th, Mr. Wigan's orange grove at Hartlands.

20th, Dr. Tillman's orange grove at Camden.

21st to 23rd, Mandeville.

24th to 29th, Constant Spring.

30th, Worthy Park.

31st, Moncague, St. Ann, from which centre he will visit various pens in the neighbourhood, and probably go on to Brown's Town.

Professor Newstead will be at Constant Spring working up his collections on the dates given.

Mr. E. J. Wortley has been detailed to help Professor Newstead.

The following instructions for collecting ticks have been issued :

1. Ticks are particularly wanted from horsekind and cattle.
2. About 20 specimens of different sizes of each variety should be collected from the same animal.
3. Great care must be taken not to damage the specimens in any way, especially the head.
4. Ticks from different animals should be put into separate tubes (which should then be carefully corked) and the name of the animal (whether ox, horse, etc.) from which they are taken, written on the label gummed to the tube.
5. Specimens should be sent up as soon as collected, to prevent deterioration.
6. In addition to ticks taken from horsekind and cattle, any found on sheep, goats, pigs, dogs, mongoose, frogs, or any other animals, should be collected, labelled separately and sent up.

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Pigs.—Correspondents have written to us wondering why pigs, in spite of good feeding and other care, remain unthrifty and will not grow. This seems to be a common complaint now. The probability is, that if all the conditions for good growth are followed

and still the pigs are not thrifty, they suffer from internal parasites. At any rate, the following medicinal treatment is very effective with worms and all parasites, and is a tonic besides. Give turpentine in from a teaspoonful to a tablespoonful doses, according to the size of the pig, in some sloppy food once a day for three days, then skip three days and give again, and continue for three weeks. Make up as a condition powder, the following:—salt, 2 lbs. ; sulphur, 2 lbs. ; sulphate of iron, 1 lb. ; powdered charcoal, 1 lb. ; mix well, and give a tablespoonful each day in sloppy food to each pig,—that is the allowance for a half-grown pig, large pigs should get double. This treatment is very beneficial.

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GOATS.—There have also been complaints of unthrifty goats and this condition in all probability, is also due to parasites either internally or externally. Sometimes goats suffer from lice, which are not seen, unless the animals are looked at carefully. In this case the animals should be washed in water with Jeyes Fluid added ; a tablespoonful of Jeyes is enough for a gallon of water. The internal treatment for goats can be the same as for hogs :—Instead of turpentine, half the quantity of Jeyes Fluid can be used for the doses, added to water sweetened before being put in the food.

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PRIZE HOLDINGS COMPETITION.—The judging for St. Andrew commenced on 30th November, and will be finished the Saturday before Christmas.

The judging for St. James will start on the 4th January and continue till about the 15th.

The judging for Clarendon will start on 15th February, and run on till about the 2nd week in March.

The judging for St. Elizabeth will start on the 1st of March, and continue till about the 11th February.

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SHOWS.—On 1st January Sav.-la-Mar Show will be held ; on 21st January there is the Bath Show at Potosi, St. Thomas-ye-East ; on 15th April the first show of the St. Thomas-in-ye Vale Agricultural Society at Bybrook, between Bog Walk and Linstead, right against the railway line.

The show of the Gibraltar Branch in St. Ann, has been postponed from January to April.

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It is noteworthy that the cry of distress through the effects of the long drought, came most loudly from those districts where there were no sugar estates, although drought affected sugar growing districts in St. James and Trelawny as badly as anywhere. At the same time it must be taken into account, that South Manchester and the plains of St. Elizabeth, are both largely occupied by small holdings, and are more thickly populated than the sugar growing districts.

However, in time of stress, there is seldom any cry of want where there are some estates (apart from pens) working. It is nearly always in districts largely occupied by small settlers that any untoward circumstances cause distress. They have so little to fall back upon, and live from hand to mouth. This may be inevitable in some cases, but largely by exercising prudence, foresight, thrift, and constant industry, most small settlers can place themselves beyond the reach of actual want. It is the peculiar business of the Agricultural Society to encourage them toward this desirable end.

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TEACHERS AGRICULTURAL COURSE.—This course is to be held in January as usual at Hope Gardens and the Mico, St. Andrew.

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IMPORT DUTIES.—The grumble about heavy duties on imported foodstuffs usually arises, when from hurricane or drought or some untoward circumstances, our native foodstuffs are scarce and dear, and instead of using yams, cocoas and sweet potatoes, pork and goat mutton, people have to depend much upon shop stuffs, and live upon imported cornmeal and flour, salt-beef, and salt-pork. At other times when local provisions are plentiful, nothing is said. It ought to be borne in mind, however, that the duty on imported foodstuffs is a protection to the local producer. In ordinary times—that is not after a prolonged spell of drought, but including ordinary dry spells,—the people in dry districts especially, but in other districts as well, could be largely independent of cornmeal or flour, if they thought more for the morrow. In old times they made guinea corn flour and cassava farine, and most families were independent of the failures of one season's provisions. Now, neither of these foodstuffs, which can keep indefinitely, are made at all, to be held in reserve.

They have heavier protective duties in Cuba than we have. There beef for roasting costs 1s. 8d. a lb. against 6d. here, chickens 1s. 8d. a lb. against 6d. here, eggs are 2d. each, and American eggs are 1½d. each, our eggs are 1d. to 1½d. each, according to season; tinned butter in Cuba is 2s. a lb., we can get fresh home-made butter here for 1s. 6d. to 2s.; coffee there, is 2s. 7½d. a lb., ours is 1s. for the very best, 6d. for good; there, ordinary peas are 1s. a lb., ours 3d.; sugar is pretty much the same price, but tea is 1s. 10½d. the half lb., and we get good tea at little more per lb.

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TICK PARASITE.—The United States Department of Agriculture this year has an appropriation of £50,000 for work against the tick pest in Texas and other Southern States. All sides of the problem are being studied. A few months ago it was announced that the experts had discovered a tick parasite in the course of their work, and this is being watched closely. The old saying about every

animal having smaller animals as parasites to prey upon them, and bite 'em, and so on, *ad infinitum*, holds good.

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MULCHING.—The predictions are for a light rainfall in the spring, and at any rate, the period between January and April is usually dry. As a safeguard, mulching should be the order of the day among staple crops, where light ploughings and harrowings to keep up a constantly loose surface cannot be carried on. But before applying a mulch, the surface of the soil, if it is hard, should be broken; then after a shower the mulch should be applied as quickly as possible.

Where there is no cocoa or other staple crop among bananas and the land can be worked by implements, the soil can be kept loose and soft by repeated harrowings; on hillsides, failing a mulch, repeated light forkings may answer.

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REPORT ON COTTON CONFERENCE.—Mr. J. R. Williams, a member of the Board of Management and a delegate to the Cotton Conference held in Manchester in August, has submitted a report on the proceedings, which we are publishing in next JOURNAL. This will be a very useful addition to our literature on cotton, as it condenses a great many useful points taken from many sources and puts them in a form easy to comprehend.

SEASONABLE HINTS.

THE rains have not continued in December in the way we should have wished, and unless the watering can be kept going it is of little use to plant vegetables in December. Mulching of all crops wherever possible, should begin this month. A good mulch in gardens saves much watering indeed, makes one watering go as far as four on the bare soil, and saves the necessary cultivation in breaking the hard crust that comes after watering.

It is too late now to plant young trees as there will not likely be enough rain to establish them before the almost certain dry weather of February, even though they get showers in January.

Caterpillars are very prevalent this year, and we have laid in a stock of various articles that are guaranteed to kill them. We can supply London purple at 9d. a lb., which is cheaper and just as effective as Paris green; and Slug Shot, and Hellebore, as advertised in this JOURNAL.

When a mulch cannot be added, as with very young plants, keep the rake going to prevent a crust of earth forming on your vegetable beds. This will save watering. Often the soil looks hard and dry on the surface because it has been baked after watering, when it is really soft and moist below, and all it needs is to have the crust broken, and this is really more beneficial than much watering.

Irish potatoes planted in November will require hilling up, and if the soil has hardened between the rows since planting, a light forking should first be given. Tomatoes and cabbages require to be earthed up too to hold them, and allow their root system room for development. The shoots that grow first from the axils of the leaves should be rubbed off; this makes for a fuller development of the plant, and secures large fruit.

It will still help to influence early blossoming of orange trees, if owners will relieve the trees of all the useless fruit for which there can be no sale. And there is still time to clean down trees which hold scale, moss, lichens, and tree ferns, and to give them a scrub with the lime and sulphur wash. Also read remarks in last JOURNAL about orange trees and time taken from blossom to fit fruit.

CORRESPONDENCE.

(Only letters with replies likely to be of general use are published here.)

Sir,—In the September number of the JOURNAL, the boy with the catapult is pointed out as doing most harm to birds. It is to be regretted that there is much truth in this, but he can hardly be made responsible for the scarcity of larger birds like peadoves, baldpates, whitewings, etc. It might not be known that the John crow is the greatest enemy to these birds. I have seen a crow taking the live nestlings from a peadove's nest, and during last season a number of ting-clings made nests in a large cotton tree on a neighbouring property, and I noticed crows eating the young ones and defying the mother birds, although they all showed fight. From what I have been told, I am led to believe that the John crows destroy thousands of young birds every year, and unless something is done to destroy these nest robbers, which are increasing in numbers at an alarming rate, some of our larger doves and wild pigeons will be exterminated in a short time.—R. C. SOMERVILLE, Secretary Pratville Sub-branch.

[Mr. Somerville is right. We have seen the John crow taking the young out of the nightingales' nests in spite of the vociferous objections from the parent birds. The John crows are particularly fond of young ducklings, and we frequently see them lift away ducklings of good size. The John crows are allowed so much latitude on account of people being accustomed to their services as scavengers, that robberies are not observed].—Ed.

BRANCH NOTES.

Aeolus Valley.—A meeting of this Branch was held in the schoolroom, on Thursday, 19th November, at 1 p.m., 12 members were present. Meeting opened with prayer, minutes of last meeting read and confirmed. Two letters were read. The business of the meeting was to lay before the members, a letter sent us by the Secretary of the Bath Agricultural Society, soliciting co-operation in the coming show to be holden at Potosi, Bath, on the 21st January, 1909. The Chairman, in addressing the meeting, pointed out the good to be gained in co-operation, the knowledge to be obtained, the experience to be ensured, that unity is strength, and isolation is weakness and ignorance, and strongly urged not to take the distance we will have to travel into account, but brave the danger, and do our best. Each member briefly spoke on terms of social interview, which will result from a show, apart from various exhibits, which will infuse new ideas in the mind of the keen observer. Second correspon-

dence from Cyril C. Henriques Co., was considered and agreed to. The Secretary was instructed to tender the cordial appreciation of this Branch to the above firm. At this point the meeting came to a close.—R. A. JONES, Secretary.

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Porus.—The regular monthly meeting of this Branch was held in the Church of England schoolroom, on Monday, 2nd November, 1908. At roll call members answered to their names were: S. A. Hendricks, Esq., President, Rev. W. B. Esson, Thos. Morgan, Alex. Thomas, D. Crosbie, V. N. Magnus, A. S. Rose, A. Reddish, W. L. Forrest, R. S. Munro, N. J. Hylton, Maurice Daley, L. A. Williams, R. A. Henry, W. T. McPherson, J. A. Simons, and the Secretary. The minutes of last meeting were read and confirmed. The first business dealt with was a circular from Mr. J. Barclay, Secretary of the parent Society, *re* scale insects on orange trees. After a short discussion on the subject, it was decided that it remain over until next meeting, and the Secretary wrote Mr. Palache asking him to come down at our next regular meeting at 3 o'clock p.m., to help in a special conference *re* the scale insect pest. It was moved by Rev. Esson, seconded by Mr. A. Thomas, that the Instructor give some lessons on pruning and how to get early fruit, which was carried. It was agreed to that this Branch put forth an effort to compete for the special prize that is offered by the Kendal Show Committee, to Branch Societies. A special meeting will be convened for the purpose on Monday, 9th inst., at 5 p.m. Mr. Forrest suggested that we try to make some provision for the poor people of this town on Xmas. day, which was agreed to, and a committee formed for the purpose. No other business, the meeting adjourned until Monday, 9th inst. Our next regular meeting will be on December 7th.—C. ROWLAND, Secretary.

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Stewart Town.—The monthly meeting of this Branch was held on Thursday evening, November 26th. The Hon. and Rev. W. M. Webb, President of the Branch, in the chair. Mr. Arnett, the local Instructor, was present. Sixteen other members of the Branch were in attendance. After the reading and confirmation of the minutes of the last meeting, the Secretary read a letter from the Ulster Spring Branch, intimating to the Stewart Town Branch that they intend holding an Agricultural Show in April, 1909, and inviting co-operation. On the motion of Mr. Arnett, seconded by Mr. John Stockhausen, it was agreed that if they send us their placards and prize list as soon as they are ready, we would be glad to co-operate. On the request of the President, Mr. Arnett gave an interesting account of the Kendal Show, held on the 25th inst. The promoters had spared no pains to make the show attractive, and it was quite a success. Minor products, which formerly was not an important feature of the Kendal Show, came in this year for a good deal of attention. The samples of coffee exhibited were very good, and the exhibits were a great improvement on past years. A novel feature of the show was a competition among the Branches in that neighbourhood. Two Branches competed on the occasion,—the Newmarket and Appleton Branches. The latter won the prize of £3 for the best exhibits. A new interest has been created, and a good deal of impetus given. At the Kendal Show there was the finest display of useful horses he had ever seen in Jamaica. Very good stud horses were exhibited. He thought we, in these parts, were neglecting ourselves to stock rearing. There is a great demand for good horses, and it would be profitable to those of us who rear stock to seek to get the best breed of useful horses. He would like to see at the different shows separate classes made for thorough breds, buggy horses, and saddle horses, respectively, so that in the judging, not only the sizes, but the uses be taken into account. The meeting endorsed Mr. Arnett's idea in this respect. Mr. R. H. Brissett moved, seconded by Mr. Chas. Bailey,

that a vote of thanks be tendered to Mr. Arnett for his interesting account of the show. It was unanimously carried. The proposed show of the Gibraltar Branch was next brought up. Mr. Arnett stated that arrangements had been made for the show to take place about the end of January, but as he would be absent from home for several weeks, it had to be postponed for April. The proposal for a show in connection with our Branch, made at the last meeting, was again discussed, and on the motion of Mr. Stockhausen, seconded by Mr. Wm. Cunningham, it was agreed that it be not held before March 1910, so as to give sufficient time for preparation, that it might be a creditable show. At that time the co-operation of the Gibraltar, Watt Town, and Ulster Spring Branches be invited. The Secretary presented a report of the year's work of the Branch. An encouraging feature of the report was the working of the Penny Bank. To encourage thrift it was started March 19, 1908. Up to the 29th August, 113 persons had taken advantage of it. The amount of deposits up to November 21, was £53 9s. 9d., and the amount of withdrawals to the same date was £16 9s. 10d. It was moved by Mr. R. H. Brissett, that another trial of cotton cultivation be attempted by the Branch if suitable land be got, but none of the other members were in favour of it. Mr. Arnett stated that the parent Society still wishes to encourage cotton cultivation. Some of the other West Indian Islands, notably St. Vincent, found cotton profitable. It was, however, too late to plant cotton. He would suggest that if the Branch wishes to establish an experimental plot that red peas or bananas be planted. He was of opinion that the large amount spent for the importation of peas could be saved if the cultivation of that crop, which can be profitably grown in the country, were largely taken up. He also explained how by careful cultivation, bananas could be largely got at the time when the prices were from 2/ to 2/6 per bunch. He urged on the members the necessity of carefully handling the banana for market, as well as the careful preparation of other products. Jamaica was earning a bad name abroad, because of carelessness in this respect. Some people were not particular in what condition they took their fruit to the wharf, provided they succeed in getting them passed. Their responsibility, they thought, ended there. It is a bad policy. People do not realize what harm they do by the careless preparation, or handling of their produce for market. When the bananas are bruised, or when they are thin, they arrive in England in a poor condition, and ripened black, and consequently their appearance unsightly. The Costa Rica banana, though inferior in flavour to the Jamaica banana, yet was more in demand in England because of its size and its beautifully ripened appearance. Because of our mistake in selling immature oranges, the orange trade has been practically ruined. One of the members who asked whose fault it was, whether the sellers or the buyers, thought the buyers of immature or badly handled fruits were to be blamed. If they did not buy bad fruits the people would not take them to sell—they would be careful. Another member stated that a good deal of careless handling was done to the bananas by the wharf hands. He had visited the wharf and seen how carelessly the fruits were handled prior to shipment. Messrs. Chas. McFarlane and W. N. Dougal, who were appointed a Visiting Committee at the last meeting, submitted their report. They were thanked. The President, on congratulating the Branch on their interest shown, urged them to induce other persons to join. Having heard from the local Instructor that in some of the Branches women were members and rendered valuable help, he would use his influence to induce the women to become members of the Branch. He further asked the members to value the instructions given by the local Instructor. The Government had acted wisely in appointing the Agricultural Instructors, who were rendering valuable services to the country. Two illustrations were given of the good the Agricultural Instructors were doing. The first was given by the Hon. and Rev. Webb, and the second by Mr. Chas. McFarlane. Mr. Webb stated that among

some cocoa trees he has, is one that would not bear, although healthy looking. He consulted Mr. Arnett about it, and he advised him what to do, and the result has been satisfactory. Mr. McFarlane related that he has a coconut tree which used to bear defective nuts. He told Mr. Arnett about it, and he advised him to treat the tree thus:—Dig a trench 4 feet long, 2 feet wide, and 2 feet deep near the root, leave the trench open for a week, then fill it with trash and other kinds of rubbish, and cover lightly. Also apply on the opposite side bi-sulphate of iron. He acted on the advice, with the exception of applying the bi-sulphate of iron, which he could not procure, and the result has been surprising. The tree now bears lovely nuts—large in size with healthy kernel and pleasant water. The items on the agenda being disposed of, the meeting terminated.—JOSIAH JOHNSON, Secretary.

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Santa Cruz Mountains.—The meeting on the 13th November, 1908, commenced at 4 p.m. with the President in the chair. The attendance was large. Among the visitors we had Colonel Hicks. After the reading and confirmation of the minutes, the correspondence from the parent Society were read and dealt with. All the names sent up to the Secretary of the parent Society are *bona fide* members, all having their subscriptions for the year ended March, 1909. As regards the Prize Holdings, Mr. Palache informed the meeting that up to the present the parish had not qualified for any judging, there being less than 30 applicants. The Society regrets that several complaints have been made by members for not receiving JOURNALS. Mrs. Ashton has received only two JOURNALS since she became a member. Mr. Allan Knight, though on the revised list last sent up, never received a JOURNAL until August. Mr. A. R. Knight receives his JOURNALS very irregularly. The President, Mr. Stafford Maxwell, and the Treasurer, Rev. S. C. Ashton, though paying members of the Society, never receive JOURNALS from it, though they do receive JOURNALS from the parent Society. These two gentlemen claim the JOURNALS from the Society also. The Treasurer mentioned that he had received 6/ as entrance fees to the Prize Holdings scheme. The Travelling Instructor then delivered a very able and interesting address on the methods of cultivation, dealing specially with mulching. In speaking on the growing of corn, he deprecated the custom of the peasant population, in breaking off the blossom of the corn before it has performed its work on the ear-corn. A vote of thanks to the Instructor was then moved by the President, seconded by Mr. Murray, and unanimously carried. Colonel Hicks then expressed the pleasure it gave him to be present at the meeting, and to find Mr. Seal, whom he had known for many years as a successful teacher and an energetic worker as Secretary of the Society. The meeting then adjourned till the third Friday in January.—A. R. KNIGHT, Assistant Secretary.

[Members of the parent Society only receive one JOURNAL, no matter they may also be members of Branch Societies.]—Ed.

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Gibraltar.—Minutes of meeting held 30th October, 1908. The following were the members present at this meeting:—Messrs. Arnett, Codner, P. Gager, R. S. Barnett, W. M. McFarlane, Edward Gibbs, Alex. Watson, Samuel N. Samuels, and Robert Currie. The minutes of the last meeting were read and confirmed. It was moved and seconded that Mr. Edward Gibbs be appointed a member of the Show Committee. Mr. Arnett moved that the show be called the "Gibraltar and Watt Town Agricultural Show," to be held in connection with the Gibraltar Branch. This was agreed to without division. A discussion on whether the show should be confined to St. Ann or to be opened to the entire Island, resulted thus:—That the show be left open to any parish which would like to compete. The prize list was introduced and thrown open for discussion.

The principle on which the Mear's Pen Show was worked was uppermost in the President's mind. He was desirous that this show be run on the same lines. There should be a separate class for the penkeepers which should be called the subscribers class. Any penkeeper paying a subscription of 5/ would be privileged to exhibit in the riding and driving competition; if 10/ he would have the option of exhibiting in everything in his class. At the close of the discussion, it was seen to be more advisable to have the subscribers class than to depend on the entrance fee of 2/ for entries. The prize list, which is now in the hands of the President, was submitted in its entirety to the meeting and agreed to. A committee was formed for drafting rules for the guidance of the show. Crops.—The most important crops that are common to the district are, yams, bananas, coffee, pimento, and oranges. Throughout the year there has been a steady sale of bananas. The fluctuation of the prices does not, it seems, prevent the output. The buyers sometimes complain of the scarcity of the fruit. The chief cause for this, I think, is because the small planters here are not putting in new plants, but are only depending on the old stocks. On the whole there has been a fair crop of yams this year. This refers specially to the negro yam. The yellow and white yams are not yet ready for the market. As far as one is able to judge, there will be a very poor coffee crop this year. It has been a long time since the crop has ever been so late as this year. Throughout the various districts there is little or no bearing. The orange crop is very good. But what of it? No buyers, no market. This has been the case year after year. Consequently there is nothing or very little in this staple to give the people an impetus to improve the trees, and thus enhance the production. Since the second week of this month we are having sunshiny days. Previous to this, there has been copious showers daily from or about the second week in October to the first week of this month. On the whole the weather is good.—J. H. EDWARDS, Secretary.

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Bull Head.—A meeting of this Branch was held at Mt. Carmel on Wednesday, December 9th. Eighteen members were present with the President, Rev. A. A. Barclay. Several ladies were also present. After the reading of the minutes of last meeting, Mr. Edwin Wright read an essay and presented a plan, showing how the peasant can most conveniently and profitably divide a small plot of three acres for cultivation and stock rearing. On this subject, there was a lengthy discussion. Mr. Albert Armstrong opened a discussion on "The benefits of a branch railway from May Pen to Chapelton." In dealing with this subject, it was clearly pointed out by all who spoke, that the opening of such a branch railway would be of incalculable benefit to this parish and to the Island. Among other advantages: (a) it would facilitate travelling; (b) open up the country for trade, etc.; (c) provide remunerative employment for many; (d) encourage the development of the agricultural resources. It was the unanimous opinion of all present, that the railway was highly necessary. Votes of thanks were accorded the two gentlemen for their essays. The acting Treasurer called attention to the state of the funds, and all the members who had not yet paid their subscriptions were asked to do so soon. At next meeting, important points in connection with the growing and curing of cocoa will be considered. There will be a discussion on "Remedy for Praedial Larceny."—E. ALEX. TOMLINSON, Secretary.

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St. Thomas in the Vale.—The regular monthly meeting of this Branch was held at Bog Walk on Wednesday, 18th November. Owing to rains no meeting was held in October. Three special meetings, dealing with matters expressly in connection with the Agricultural Show to be held in April next, were successfully carried through. At this time also, business was strictly in the interest of the show. There were present, J. H. Mo-

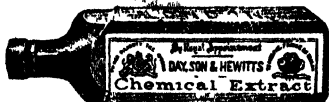
Phail, Esq., in the chair, President, Rev. J. W. Graham, Vice-President, Messrs. E. L. Stanigar, R. F. Constantine, P. H. Ainsworth, Rev. W. C. Bennett, Messrs. C. Edwards, A. D. C. Levy, E. A. McNeil, R. M. Dillon, J. P. McPhail, E. Campbell, D. L. Campbell, E. A. Kerr, Jno. Fraser, N. Brown, W. C. Gauntlett, W. DeSilver, Jno. Gaynor, Jno. Martin, Jos. Fuller, Arthur Grant, C. Gardner, J. H. Thomas, I. Cookman, W. Walters, J. N. Simmons, and the Secretary. Mr. L. Palmer became a member of the Society. Letters from His Honour the Custos, Hon. J. V. Calder, M.L.C. Hon. H. Cork, M.L.C., expressing their willingness to become patrons of the show were read. The President got the ready approval of the meeting to request the Hon. J. V. Calder to lecture on the cultivation of bananas at the next meeting, if not otherwise engaged. The Custos, who had promised to be at this meeting, was unable to attend. The next meeting will be held at the schoolroom, Bog Walk, on the third Wednesday, the 16th December next.—G. R. PALMER, Secretary.

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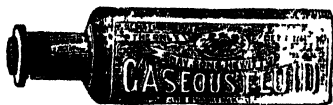
Hanover.—This Society met with the Rev. D. A. Rothnie, M.A., in the chair. The meeting was a small one. The minutes were read and confirmed. The Secretary stated he had received a letter from Mr. Barclay, asking if this Branch thought it would be possible to obtain the services of a local gentleman to go along with Mr. Mennell, the Agricultural Instructor, to assist in judging the Prize Holdings Competition. The Secretary stated that he had consulted three or four of the members whom he had met, and finding that they agreed that a local gentleman could not be got, and as a meeting would not be held for some time to enable him to put the matter before the Society, he wrote to the Secretary of the Jamaica Agricultural Society, telling him the opinion of these members. The Society approved of the Secretary's action. The Secretary reported that the show accounts still show a deficit of £1 2s., and that there was a bill to be paid to Messrs. Aston W. Gardner & Co., Kingston, amounting to 6/6 for placards. It was decided that all should do their best to clear off the debt. Mr. Rothnie said he would be glad to receive any jippi-jappa hats suitable for sale in Scotland. The Secretary was instructed to write to Mr. Barclay and find out if he would buy any arrowroot, as he did last year, and if he would, to ask him to be good enough to say what time he would pay. Mr. Rothnie then left the chair, which was taken by the Rev. B. C. Lumsden. Mr. Rothnie moved the following resolution on taxation, which was seconded, and unanimously agreed to: That in the opinion of the Hanover Branch of the Agricultural Society, the Amendment Law, "No. 6," relating to the valuation of property, is calculated to interfere with the work of the Agricultural Society, and to frustrate the ends sought to be attained by it, and which it has been surely attaining, especially it is felt that it will bear adversely on the successful working of the Prize Holdings scheme, which was started by the Agricultural Society, and which has been doing so much to inculcate the principles of industry and thrift among the peasantry. This Branch of the Agricultural Society would further point out that by this Amendment Law, the suspicions of the peasantry have already been revived as to the disinterestedness of the intentions of the Agricultural Society in its work on their behalf, and in St. Elizabeth. The peasantry has already lost confidence as manifested by their declining to enter their holdings for competition. Therefore regarding the Amendment Law as antagonistic to the ends the Agricultural Society has in view, this Branch would respectfully ask the parent Society to take the matter into its serious consideration, and take such steps as it deems necessary to restore the feeling of confidence which is essential to the success of its work." The Secretary was instructed to send a copy of the resolution to the Secretary of the Agricultural Society. There being no further business, the meeting closed.

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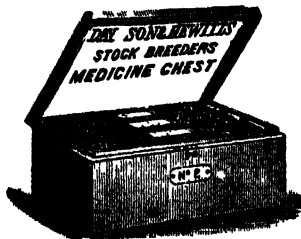
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LIST OF BRANCHES

NAMES OF BRANCHES.	SECRETARIES.	POST OFFICERS.
Aberdeen	H. W. H.	re Town.
Above Rocks	W. A. L.	the Rocks
Æolus Valley	Robt. A. J.	ths.
Albany	Rev. C. A. W.	ty.
Annotto Bay	Rev. T. N. B.	to Bay.
Appleton	Geo. Ramtallic	ty.
Balaclava	A. A. Doran	a
Bull Head	E. Alex. Tomlin	n.
Bath	J. P. Duffey	
Brandon Hill	Jos. C. Waldron	
Cambridge	R. A. Clare	own.
Castleton	Jas. Hardie	
Clarksonville	Saml. E. Hall	
Cornwall (Central)	E. S. Jarret	
Christiana	Rev. Dr. Turner	
Cedar Valley	R. Campbell Clarke	
Comfort Hall	D. S. Williams	
Darliston	J. H. Hedley	
Duan Vale	E. I. Hawkes	own.
Deeside	R. R. McBayne	side.
Davton	J. Thos. Hemans	Williamsfield.
Fairfield	H. E. Wright	Spur Tree.
Fair Prospect	W. A. Ellison	Priestman's River
Giddy Hall	C. A. Pitter	Giddy Hall.
Gibraltar	J. H. Edwards	Watt Town
Glengoffe	A. P. Hanson	Glengoffe.
Grand Cayman	J. S. Webster	Grand Cayman.
Guy's Hill	W. E. Watson	Guy's Hill
Hanover	Rev. Jno. F. Gartshore	Cascade
Hampstead	E. Saml. Exell	Hampstead.
Hampden	I. Lawrence	Hampden.
Hector's River	E. J. Jacobs	Hector's River.
Lamb's River	U. L. Brown	Lamb's River.
Lititz and Nain	P. F. Hutchinson	Watson's Hill.
Lucky Hill	E. M. Ford	Gayle.
Maidstone	J. A. Maxwell	Maidstone.
Manchester, South	H. S. Lynch	Cross Keys.
Metcalfe	S. C. Scott	Clonmel.
Mocho and Brixton Hill	J. A. Rhoden	Mocho.
Newmarket	M. A. Harvey	Newmarket.
Ocho Rios	L. C. B. Yeoman	Ocho Rios.
Pedro	W. J. Francis	Pedro.
Porus	C. Rowland	Porus.
Port Royal Mountains	C. L. A. Donnalls	Mayis Bank.
Portland (Central)	Albert Roper	St. Margaret's Bay
Red Hills	J. M. Wallen	Belvidere.
Rio Minho Valley	U. Theo. McKay	Frankfield.
Retreat	J. I. Dixon	Retreat.
Santa Cruz	S. A. Blythe	Santa Cruz.
Santa Cruz Mountains	N. E. Seal	Malvern.
Savanna-la-Mar	A. W. Levy, B.A.	Savanna-la-Mar.
Smithville	J. A. Edwards	Frankfield
Springfield	D. A. Smart	Point.
St. Ann	Miss E. French-Mullen	Claremont.
St. George's	Wm. Jackson	Buff Bay.
St. Mary (Central)	N. A. Sinclair	Richmond
St. John's	S. A. Banton	Guanaboa Vale.
St. John's (Upper)	W. T. Edwards	Point Hill.
St. Peter's	J. Ed. Simms	Petersfield.
St. Andrew (Central)	Jos. P. Leigh	Stony Hill.
Stewart Town	Josiah Johnson	Stewart Town.
Springfield, St. Elizabeth	E. Thos. Atkinson	Springfield.
St. Thomas-ye-Vale	G. R. Palmer	Bog Walk.
Spanish Town	G. Percy Fonseca	Spanish Town
Trelawny (Upper)	A. A. Palmer	Albert Town
Trinityville	J. T. Edman	Trinityville.

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